

THE
FIFTH
VOLUME



Edith P. Kennedy 1931

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CALIFORNIA
AND ITS GOLD MINES.

CALIFORNIA AND ITS GOLD MINES:

BEING

A SERIES OF RECENT COMMUNICATIONS FROM THE MINING
DISTRICTS, UPON THE

PRESENT CONDITION AND FUTURE PROSPECTS

OF

QUARTZ MINING;

WITH AN ACCOUNT OF THE RICHER DEPOSITS, AND INCIDENTAL NOTICES
OF THE CLIMATE, SCENERY, AND MODE OF LIFE IN CALIFORNIA.

EDITED BY

ROBERT ALLSOP,

OF THE STOCK EXCHANGE.

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NOTE BY THE EDITOR.

A PORTION of this work, when published in a contemporary journal, having attracted considerable notice, I have deemed that it might be of service, at the present juncture, to publish the whole correspondence, with other matter equally valuable, since received.

The large amount of capital embarked in quartz mining, together with the extreme importance attaching generally to matters connected with the gold-producing districts, rendering it incumbent upon me, regardless of expense, to obtain early and accurate information, I solicited and obtained the valuable co-operation of the writer of the following letters, than whom no man in California possesses a more enlarged or more varied experience. These letters will speak for themselves. They possess the great advantage of having been written on the spot, fresh from the survey of the works and away from

the bustle and excitement of speculation; the writer, though occasionally prospecting in the creeks and other placers favourable for rich deposits, having no interest in quartz works of any kind—in which however, prior to experience, he seems to have had some faith.

If, in addition to their general interest and the freshness of their style, which is singularly in unison with the wild yet splendid country and delicious climate in which they are written, the truths here for the first time so clearly and fearlessly enunciated shall serve to impart correct ideas as to the nature and prospects of quartz mining (as at present conducted), to those who are already embarked or who are proposing to embark in this species of enterprise, the publication of these letters will not be without its use.

1, Royal Exchange Buildings,
London, June, 1853.

CONTENTS.

LETTER.	PAGE.
1. The Isthmus	7
2. Panama	10
3. Panama to San Francisco	14
4. Journey to the Mines	21
5. Quartzburgh	24
6. Agua Fria	27
7. Mariposita	34
8. Guadalupe	43
9. Excursion to the Sierra Nevada	47
10. The Mariposa Quartz Works	58
11. The Nouveau Monde	66
12. Bear Creek	69
13. Sherlock's Creek	76
14. Erroneous notions in Europe	83
15. Colorado	87
16. Deceptive practices	91
17. Conditions of success in mining	96
18. Progress	101
19. Difficulties to be encountered	105
20. What will pay	113
21. Advantages of California as a residence	120
22. Why Quartz Companies fail	128
23. Conclusion	137

LETTER I.

THE ISTHMUS.

Gorgona, November 5, 1851.

* * * * *

WE brought to this place about twenty plate-layers, comprising English, Irish, and Americans, engaged to work on the Panama railway. They are to have double wages for half time; but they seem to think they have made a bad bargain, as several of the number are already ill with the fever. Very few of the Europeans engaged in this climate escape the fever of the country, which seems to me to be one of the worst kind, accompanied with biliary derangements and almost total prostration of strength. I know not whether the attack of cholera at Jamaica has prepared me to receive or resist fever, but it seems almost impossible for a native of the temperate climates to recover, so utter is the debility and the debilitating influence of this hot and humid atmosphere. The water in the Chagres river is too high to admit of reaching Cruces in time to get to

Panama the same day, so I have resolved to accept Mrs. Barber's invitation, and keep the day as one of rest.

This climate seems to me very many degrees worse than that of Jamaica, in the vicinage of Kingston and Spanish Town, and *that*—luxuriant and most beautiful as it is—is the worst I have yet seen out of the States. The forests are, if possible, more dense, and the depth of black alluvial soil greater. Yet this is a splendid country, and, if cleared and cultivated, would yield all the fruits and cereals of tropical and semi-tropical climates. It wants about a hundred thousand Swiss, Flemings, or Palatines, to convert this luxuriant desert of foliage into the most beautiful and productive of gardens. Most of the passengers are new to this country; but I have had some communication with two families, the heads of which have spent two years in California, and are now returning thither with their families to settle. They describe the climate as fine, but agree in the utter want of civilisation. I have been much surprised that neither of these parties know anything about quartz gold. They agree that there is a great deal of gold in quartz, but admit they have never worked any, which is rather extraordinary. They say, however, that there are many works erected, both by Americans and foreigners, but that at present—that is, up to

the spring of this year—they do not know of any that have yielded much profit.

I have engaged a mule for to-morrow and a *hombre*, to carry my trunk, and am assured that I shall easily reach Panama before night. I purpose joining a large family; for I find my guide speaks no English, and but little Spanish. I will write again from Francisco, which place I hope to reach in three weeks, if I escape illness. This (Gorgona) is a very unhealthy place, though not so bad as Chagres, which is a pest-house, and about on a par with Cruces, some nine miles higher up. The railway will cross the river at this place, and will be completed, it is said, in a year. I doubt this—first, by reason of the *necessary* delays attendant upon the seasons, which alternate between the wet and the sickly (often both in one); the present want of funds, and the destruction of the timbers by insects. Many parts of the line now laid are already rendered useless, owing to the perforation of the timber by insects and vermin.

Yours very truly,

A. T.

LETTER II.

PANAMA.

Panama, 12th November, 1851.

* * * * *

I SHOULD certainly have gone on at once, but there was no conveyance—not even a sailing vessel. I have been here now five days, but having received my luggage, and having a private assurance that the vessel will steam to-morrow evening, I have rallied a little. The heat, the moisture, and the filth of this New Granadian city are beyond expression, and I rejoice that I may quit it to-morrow. I have been very ill, but I hope it may prove sickness of climate, and not fever. I had an adventure on my road from Gorgona which had nearly cost me my life, but, as a miss is as good as a mile, this will serve for relation when I next see you.

This city of Panama is beautifully placed, though disfigured by unmitigated filth, and is gradually becoming settled by new comers from the States. There is only one decent house here, and that is an

excellent new structure, the residence of the British Consul. It is situated in a wretched back lane, but looks over the splendid bay, with a view of the beautiful islands at a short distance. The colonists deserve to thrive in a worldly sense, since they never can profit in any other. I believe that the British Consul has a water-closet, but I am assured that it is the only one in Panama. The very worthy and simple minded deputy-governor cleans his own windows, and performs many other offices which we should call menial; but the ease with which the necessaries of life are obtained, and the great demand for labour, have so enhanced its price, that very few can afford to keep servants. The mighty influx of traffic has much enhanced the price of houses in Panama, and has enabled the possessors of this property, to live in comfort elsewhere, upon their greatly increased income. The New Granadian women are very graceful, and the very few of the upper class are not excelled in any part of the States—and that is saying more than I would like to say down-east. Washing is so dear that, high as is the price of new clothing, it is considered economical to wear clothes as long as possible, and then to supply their place with new ones.

It is very pleasing to see the fire-flies in the environs on a clear night, amidst the chapparal which surrounds Panama, whose fires are incessantly ex-

tinguished and re-illuminated. It is very interesting, but more solemn, to witness the rapid approach of night, in the midst of the deep forest, rich and impervious, with foliage of every kind, whilst the sun is yet above the horizon, and to listen to the various sounds which assail the ear, beginning with the ever present cricket, and ending with the howling of beasts and the cries of night birds. Very solemn is this, when snugly enconcealed in a bamboo hut, but far otherwise when travelling alone over a narrow trail, tangled with the roots of trees, and almost impervious with dependent creepers.

This journey of two days, and detention of more than a week, unnecessary as it is (in part at least), makes this passage a kind of lottery, in which the stake is neither more nor less than life itself. Of the hundreds that arrived here within the last week from New Orleans, Grey Town, and New York, at least three hundred are prostrated with this terrible fever, so fatal to the denizens of a temperate climate. This will be remedied when the railway is opened, but from the want of funds, and—what is even worse if possible—from the difficulties inherent on this and similar enterprises, in this pestiferous climate, this will be years in completion. Of these difficulties the foremost is the almost certain death or invaliding of the skilled workman, labouring in these close and humid bottoms, surrounded by thick foliage and

working in proximity to newly excavated earth, without a breath of air, with the thermometer at 105 degrees in the shade. It is not the price of labour alone, it is the impossibility of obtaining skilled *continuous* labour, seeing that to labour, in these forests, is almost certainly to die.

There are no mines here, but above Carthagena, upon the Magdalena, there are some gold mines worked by a mercantile firm in London (Powles, I think), which are said—with what truth I know not—to have produced from £20,000 to £40,000 per annum, for many years past. This may be, but I know not how it is, my faith in gold veins seems to get less and less, the nearer I approach to the golden shrine.

Faithfully yours,

A. T.

LETTER III.

PANAMA TO SAN FRANCISCO.

San Francisco, Dec. 1st.

I WAS not able to forward my letter from Panama, and have been obliged to bring it on here. I am, therefore, enabled to give you, in continuation, some account of the voyage, which has been favourable, though under unfavourable circumstances. On reaching Panama, I found that the vessel which was said to be under contract to convey us would not be ready for some days, and these *some days* extended into more than a week. At length, however, it became known that Messrs. Garrison and Fritz had purchased the "New Orleans," a vessel employed during the Mexican war, to convey horses and stores to Vera Cruz. This craft, already six years old, was verging upon decay, but the temptation of a share in the profits of the transit was too great for the worthy money changers to withstand, and this ancient vessel was put on the line. As she was pledged to start on the day fixed, I secured

my place in her, although well aware that she was utterly unequal to weather a heavy gale, and sure to go down in a storm. I felt, however, that I had only the choice of certain death on shore, or a chance of life at sea. In this small steamer were cooped (for they were not berthed) about four hundred passengers forward, and more than two hundred aft ; and the consequence was, as might have been foreseen, a very heavy sick list.

The weather was very hot and profoundly still, so that there was no escape from the stifling condition of the vessel. Passing the Gulph of Tehuantepec, which is proposed as the basis of a ship canal to the Atlantic, we reached Acapulco on the eighth day from Panama, which was a great relief, as it enabled us to spend one night ashore. This is a beautiful position, being in the centre of a splendid bay, surrounded with verdure, and perfectly landlocked, an island at the mouth, leaving only two passages into the open ocean. At this place I stopped about twenty-four hours, and in addition to surveying the surrounding country, as far as possible, made my first acquaintance with rat soup, or rather, stew. Prejudice apart, this is by no means a bad food—far better than rabbit, and, as I think, of a much finer flavour than squirrel.

After leaving Acapulco the weather was invariably fine, which afforded us an admirable view of the

mountains and the volcano of Guatemala, bringing us in due time to the Gulf of California. This gulf is, at its mouth, 240 miles broad, and runs up the continent nearly 700 miles, wholly separating Lower California from the mainland. The gulf varies in breadth from 120 to 240 miles ; and the peninsula of Lower California is about the same width. After we passed the mouth of the gulf the atmosphere became somewhat less oppressive, and a few of the scores of passengers previously panting for breath seemed to revive. In about six days we neared the coast a little below Monterey, when, such was the clearness, the surpassing purity of the atmosphere, that the rocks on the shore, apparently from five to seven miles' distance, were really more than twice that distance.

Our passage had hitherto been very favourable, and well for us that it was ; for, in the light gales which we encountered, the vessel laboured very much, and was often struck with a force which jarred her whole frame. We passed Monterey at eleven o'clock ; about which time the wind freshened, and long before night increased to a gale. The vessel laboured to an uncomfortable extent ; every sea that struck her bows seemed to paralyse her whole frame ; and, to make matters worse, the quantity of water had latterly increased to such an extent that it reached to within two feet of the engine-room. Under these circumstances, seeing

no hope that the ship could weather the gale, the captain put on every inch of steam—if I may use that term as applied to pressure—and, before the water reached the fires, we were within the Golden Gate, the strait or entrance to the vast harbour of San Francisco. By applying all the power available the ship was kept afloat, and we arrived safely at the harbour early the next morning. On afterwards making enquiries as to the authority to take cognizance of the conduct of the owners, in using such a weak vessel as a passenger-boat, I was told there was none—that in this country people walked alone—that there was no one to take care of grown-up people ; and that this was a new country, where people lived fast, and must take care of themselves.

I have no doubt that you have formed some notion as to the situation, size, and trade of San Francisco. Approached from the Golden Gate on a fine morning, the city, the shipping, and the vast extent of the bay, present a splendid *coup d'œil*. As you approach nearer, however, your attention is attracted to the objects more under immediate and distinct observation. Reaching, with some difficulty and delay, the wharf on which the passengers and cargo are landed, you perceive you are in the midst of a town of tents, and tents too of the most wretched kind. Under these tents and decayed huts you see the sea reaching to a great dis-

tance inland, as it were, and covered with a framework upon which rests many streets, under which the water rises and falls with the tide ; being, in fact, one vast sewer for the lower part of the town.

Having, in some measure, the care of a lady who was very ill, I was desirous to engage a vehicle of some kind to convey her to the Mercantile Hotel, about 900 yards from the ship's berth. On asking the price of the driver, he demanded eight dollars, or thirty-three shillings, and refused to take less ; at last, a man was found to undertake the service for five dollars, and, as I was curious to see in what time he would perform the distance, I looked at my watch at the moment of our departure, and, upon again consulting it at the moment of arrival, I found that the journey had occupied just twelve minutes. In the Mercantile Hotel, for one dollar per night a single bed can be obtained ; but, as these beds are invariably full of the most enormous fleas, to sleep is very difficult. Not wishing to stay in Francisco to make a further acquaintance with my bed-fellows, I early discussed a "Porter-house" steak, which I found a trifle harder than the steaks in Broadway or Cornhill, and sallied out to make my purchases, and to take a view of this lath-and-plaster city.

The first thing that attracts notice is the state of the streets, which are all planked, and, in many

cases, full of large holes, even in the middle of the carriage-way. Everywhere you see the most wretched houses, shops, and storehouses, in which, nevertheless, a very large business is transacted. The present fashion, however, is to erect very splendid stone edifices, and of this character are many of the stores in Montgomery-street, and others are projected in all the principal streets. But the complete transformation of this city into one of a permanent character must be the work of many years. I was shown a good store in Montgomery-street, the rent of which is 2,000 dollars a month, or £5,000 a year. The average profit in gross—that is, to the importer—is usually forty to fifty per cent., except in articles of first necessity; and, in these, though not offering such a large regular profit, there are, every year, vast speculations by which much more than fifty per cent. is realised. Every man here who will work may do so, and at ample remuneration—not less than five dollars per day for an occasional help, whilst, for a clerk or a good servant, eight dollars will be given.

The situation is very good, but, from what I hear, it is a very unhealthy place at all times. Indeed, it abounds most plentifully in filth, garbage, rats, and fleas, besides other matters not needful to recapitulate. The money changers here, as elsewhere, the most sordid of mankind, fleece the poor

miners, and give them something like eighty per cent. of the full value only. There are but few females here, and those are certainly not favourable specimens of the sex.

I am thoroughly sick of this place, which is, indeed, very sickly just now, and hope to leave in a day or two. If the life of a miner is not better than the life led here, nothing should induce me to settle in this country permanently. The hills are bare and the country flat—two abominations in my eyes. I hope soon to be amongst the quartz hills, in pure air, and out of the strife of traffic. I will write soon, and say more.

A. T.

LETTER IV.

JOURNEY TO THE MINES.

Stockton, 4th December, 1851.

* * * * *

I HAVE, at last, secured places for Quartzburg, when the conveyance comes in, but it is already two days over due, owing to the roads being under water.

This place seems to have the elements of progress plainly written on its front. It is on a slough of the St. Joaquin, at the head waters, as it were, for Calaveras, Tuolumne Hill, Sonora, and the southern mines. It is already a great place of trade, and, though placed on a flat, is said to be, and I believe is, healthy. Living here is very expensive, costing $2\frac{1}{2}$ dollars a day for very homely fare, and a bedroom shared by a dozen. Industry is, however, well rewarded—two men having realised this year upwards of 4,000 dollars from the produce of an acre and a half of land near the town. Judging from what I learn, not one quartz work yet in operation has paid its expenses, and most of the quartz

rock held by native Americans is for sale to new adventurers.

I think it likely that, as gold has never yet been found *in veins*, the assertion so confidently made that veins do exist in quartz is a mistake. However, if all goes right, I shall have an opportunity of judging from personal inspection in a very few days, when I will write you the result of my inquiries and researches. I am told that a person of the name of Cook, a money changer at San Francisco, has a vein of fine gold at the Cold Waters, and that he is trying to sell it to some members of Parliament in London. Now, I have not much faith in this vein of pure gold. First, my experience in mining leads me to distrust somewhat the bruit of great discoveries; and, next, it is not usual to show great anxiety to sell rich veins. The tendency is rather, according to my experience, to overvalue all discoveries, and to overhold, rather than undersell. Still, this statement is made very positively, and, further, it is stated that the holder is looking to get something like 100,000 dollars (or £20,000) for this mine. I must confess that my horizon does not extend the farther I go, and that my faith, like Bob Acre's courage, begins to ooze out. Nevertheless, I have faith in the combination of quartz and gold; and I do not yet see why the quartz ledges should not be as rich as isolated specimens, though I hear

of nothing that is richer than ten cents in the pound weight of quartz. Pieces, however, are sometimes found, but very rarely, and very small, that weigh from one dollar to three dollars per lb. I cannot learn what is the average cost of reduction by quartz machinery ; all seems uncertain and doubtful. Nothing is certain but uncertainty.

Travelling is very expensive, the fare being twenty-five dollars for about sixty-four miles, nearly all through a level country. At the Merced the mining district begins, both for placer diggings and for quartz works. At Quartzburg I am told I shall find some of the finest works in California ; so that in less than a week I shall be able to say more. As yet, I have no positive or reliable information, being at least sixty-four miles from Quartzburg ; but my impressions, from what I have heard, are not very exhilarating.

A. T.

LETTER V.

QUARTZBURGH.

Quartzburgh, 8th December, 1851.

I WAS up this morning at seven, a little before sunrise, and took a survey of the country. It is very undulating, and it is a great relief to the eye after travelling from San Francisco for two hundred miles through a flat country. The works here are pretty extensive, and seem to be conducted, as far as I can see or hear, with some regard to economy, if not with success. The complaint is, that the gold escapes, and that they must adopt improved amalgamators ; of this I am not qualified to speak, but I shall return here again so soon as I have enlarged my sphere of observation, it being self-evident that, all such conclusions being in their very nature comparative, my present information is inadequate to supply materials for just conclusions. The country appears to me to present rather favourable indications for works of the kind, and, so far as I can *at present* judge, the undertaking seems a likely one ;

but of the value of the quartz and the efficiency of the machinery I suspend my opinion until I see, hear, and know more.

I shall go to morrow by Mount Ophir, where there are very extensive works, superintended by Mr. Kenealy, an old and experienced South American miner, in whom great confidence is placed by the adventurers. I shall then proceed to Agua Fria, the seat of this rich vein of pure gold, which is said to be worth £20,000 ; but I feel rather inclined to go to Bear Valley, in which a very recent discovery has been made by a Mexican named Otagus, of a deposit of gold in a bed of decomposed quartz, out of which it is said 400,000 dollars have been taken. Not less than five thousand miners visited this spot last week, and those whom I have seen agree in estimating the yield as prodigious. The miners at this spot, however, represent that the lawless state of the place renders it somewhat dangerous to the peaceably disposed, and that both food and lodging are unattainable, by reason of the sudden and enormous influx of population attracted by this remarkable discovery. I shall therefore follow out my original intention of visiting Agua Fria, taking Mount Ophir in my way. The country for six miles between the Merced and this place presents a beautiful alternation of hill and dale, the ground up to this spot, however, rising rapidly. On this road

we pass several placers or river diggings, which for the present are relinquished by reason of the rains ; but I am told that, though valuable in places, they are not of much account as a whole. The landscape presents the appearance of an English park of the highest class, such as Castle Howard, so beautifully is it wooded naturally. Magnificent pines, 150 to 180 feet high and from four to six in diameter, tower upon the very summits of mountains varying from 2,500 to 5,000 feet above the level of the sea. The country, moreover, looks especially cheerful by reason of the greater proportion of the trees being evergreen, whilst the rains have covered the land with a carpet of verdure. The frost sets in at sunset and disappears soon after dawn, the ground being quite dry, and, when uncovered, dusty at noon. The sun is constantly unveiled, and about two o'clock almost too warm when contrasted with the frost at night. Still the climate is equal to March, or rather April, on the Atlantic side.

The hotels, so called, are slovenly places, very cold at night and not very clean. Fleas abound even at this season, and they do say that these are not the only remembrances of a night's repose which try the patience and toughness of the most seasoned travellers.

A. T.

LETTER VI.

AGUA FRIA.

Agua Fria (or Cold Waters),

December 28th, 1851.

I HAD purposed writing ere this, but it would have been of no avail. The incessant rains of the past week have so swollen the streams as to render travelling of any kind impossible. It was lucky I came on to Agua Fria and this district at the time I did, or I might have been at Quartzburg without occupation or available object till this day.

I visited Mount Ophir on the day after I last wrote, passing through a most delightful country, but over one of the worst roads I ever toiled. In crossing the streams it is necessary to descend from twenty to forty feet, at an inclination varying from thirty-five to fifty degrees, which would be so far serviceable, that if the bed of the river was not filled with immense rocks the rebound would carry you half way up the opposite incline. Where, however, by reason of the descent approaching too near

the vertical, the road winds on the side of the declivity, whilst it certainly lessens the velocity of the descent, it is attended with another inconvenience about equal in degree, viz., that as there are no roads here but what are worn every spring by the traffic, one side of the road is often two feet higher than the other, necessitating a change and removal of weight or loading to the upper side, to be changed again when the ravine is passed to the other side, which has then become the uppermost. In the public conveyance it is necessary for the passengers to arrange themselves in this manner, and frequently even to descend and hold on by the outside.

The mode of life here, so charming in itself, from its utter wildness and independence, must have many drawbacks to the conventional in our country, and still more in our towns. For instance, the stage which conveyed us from Stockton to Quartzburg arrived at Snelling's Rancho about two o'clock on a bitter cold morning. After waiting for half an hour the bar-keeper rose, allowed us to enter, and soon prepared us some warm coffee, which, with dry biscuit and the everlasting dram, was not a little reviving. Seeing that there was no provision for sleeping, I threw my wrapper upon the boxes and portmantcaus placed upon the floor in most admired disorder; and though my body rested on

the sharp edge of a large chest, I got relaxation, but not repose. In the places where they lodge, bunks are placed along the walls, without bed or mattress ; and thus, with three or four narrow boards underneath, you are left to your own reflections. The food, however, is abundant, consisting always of beef, fried, and potatoes, with fat pork and beans by way of a variety once every week. As to washing apparatus, there is none ; you must descend to the river or nearest water, and there wash and dry yourself as best you may.

I was not able to see Mr. Kenealy, who had that morning left for Mariposa ; but I saw the works at Mount Ophir, which much resemble those at Quartzburg. I have had some conversation with the men engaged on the works, and though their language is measured, and they will *guess* and *reckon*, I *calculate* that there is something not satisfactory in its present condition ; in any case the expenses very far exceed the produce, and the stuff they bring up is poor. I do not refer to that portion of the ledge condemned as worthless, which is much the greater portion, but to that selected as rich enough to pay for the further cost of breaking, calcining, crushing, and amalgamating. However, I have seen far too little to be able to speak accurately, either positively or comparatively ; and should not have ventured to give this impression, for it is nothing more, but

that I have seen and learnt so much here, where there are no works as yet in operation, as to lead to very unfavourable inferences as to the actual position of Mount Ophir. I am informed—and I have this from men of intelligence and character—that there has been no return worthy of the name, that the outlay has been immense, and that the adventurers, or part of them, urge its sale, if any new adventurers can be found, and, if not sold, threaten to close the works to save further loss. I am daily acquiring a clearer insight into the true position of the works in the vicinage, some of which are about to stop by reason of their unproductive state.

Being now in the great basin of rocks, hills, mountains, and quartz ledges, I first took a general view of the country from the eminences around me; on the summit of one, not the highest, I found the crater of an extinct volcano. The whole country is known to be of volcanic structure; not alone from the conical hills being strewed with broken quartz, but there is much lava in the vicinity. It is a region so curious, and, withal, so beautiful, that if in the States, or even Europe, it would justify a long pilgrimage to behold.

I have seen the miners very busily occupied in throwing out the dirt from the upper part of the gulches, and I saw one piece of gold taken out of a small stream which sold for 1,156 dollars, or nearly

£232 sterling ; but pieces of this size are the exceptions, as I do not hear of many like it. Still the steady miners get here ten dollars, or £2 a day ; some more, *much* more ; many less, *much* less. I have been engaged for nearly a week in endeavouring to ascertain the exact site of the rich ledge said to have been sold to some members of the English parliament, but, strange to say, no one here knows anything of any such sale ; still more, they all affirm that there is no rich ledge in the valley ; though there are some quartz leads in the hands of the gamblers of Mariposa, Colonel Pcters and others, which run amongst the hills to the Merced. I have been to the city of Mariposa, which is the capital of this district, and find that nothing is known of any Cook, still less of any rich mine belonging to him. I have, however, after much and pertinacious inquiry, learnt that there were some works at Mariposa belonging to Palmer, Cook, and Co., of San Francisco, which have just stopped for want of funds ; and that, as Cook is a regular down-caster, it is likely he may have some hand in this matter. With this clue, slight as it was, I went to work, and ascertained that there was a claim registered about sixteen months ago, and therefore now out of date, in the names of four parties, two of whom were Cooks. Further inquiry, prosecuted for some days, led me to the site of the

mine, which is stated to cross Carson's Creek, and to be indicated by one or more pits sunk on the lead or ledge. This, accompanied by two very intelligent miners, I visited, but without finding any ledge, or indication of a ledge, and of course no sign or mark of possession. In any case, I have satisfied myself that, whatever quartz may be here, there is now no legal property in it. About a mile below this, or rather nearer to the new town of Agua Fria, are some splendid quartz rocks, elevated nearly 100 feet from the surrounding level, which, as far as is yet known, however, are without a trace of gold. Near to the rich placer diggings is a little pit upon a quartz ledge, out of which some pieces, rich in gold, have been taken for exhibition. This is considered a favourable spot, and is certainly near water, and not at a vast distance from wood; but I fear the water will fail in summer, judging from the gravelly nature of the subsoil, and from what I have learned from residents.

I have perambulated this splendid land for a distance of six miles in nearly every direction, in some places more, in others less, and have not as yet met with any quartz rock rich in gold. I mean *continuously* rich; for I have seen many pieces, small pieces, containing spots, and even portions of gold, imbedded in the quartz, which, by diligently and carefully chipping off the quartz, I could (fol-

lowing the course of the proprietors of ledges) have made very rich indeed, in some cases as high as five dollars of gold in the pound of quartz. Still I have neither heard of nor seen any *veins of gold in quartz*. No continuous course; nothing but fortuitous deposits at irregular intervals.

I shall pay attention to this district; it is not only the most beautiful and the most healthy, but is deemed, by those who have seen the Mary's Ville district, to be the most continuously rich in placer or river diggings. I shall next visit the works at Guadaloupe, thence proceed to visit Moffat and Johnson's works, thence to the Merced; and, when the waters are dried up and the streams fordable, return by Davonport's Mills on Saxton Creek.

A. T.

LETTER VII.

MARIPOSITA.

Mariposita, 28th January, 1852.

I AM now regularly installed at this place, which is a colony of Gauls and Mexicans. The water has returned into the channels, and the weather is equal to that in May on the Atlantic side.

This is an extraordinary place; there are flats here in the Mariposa River, in which one of the Frenchmen told me his party made more than two pounds of gold per day; and I incline to give credence to this statement, as I have frequently seen the Mexicans take, out of a single pan of dirt, gold worth not less than half a dollar, and sometimes, though this is rare, even a dollar. This they have obtained by picking the stuff from the fissures of the slate rock, whilst the Frenchmen dig in the middle of the flat or bar, and wash all the bottom stuff. It is evidently a first-rate location, and seems likely to last a year or more. There are some quartz leads in the vicinity, but the miners are doing too

well to think of quartz. Indeed, I learn from observant men who have been in the country for three years, and are, therefore, *old* settlers, that it is only when the river or gulch claims are worked out that the practical miners ever give any thought to quartz leads. The constant search after gold in veins, and the constantly recurring disappointment have rendered practical men quite sceptical as to their existence or the existence of gold in any form to a sufficient extent to justify the loss of time and the large outlay necessary to erect and work machinery. That they leave to those who have money, but are indisposed to labour, and seek to find gold by an easier way.

Yesterday I went to Agua Fria, to ascertain whether any works were in progress ; and though it seems that a company is really in existence in London, no one in Agua Fria has any knowledge of this fact, and the existence of any company contemplating the reduction of quartz so poor in gold as that *in this district*, is more than doubted. I have, however, been informed that specimens have been collected in this and other neighbourhoods for Palmer, Cook, and Co., both river specimens and those obtained from the backs and stopes of quartz ledges, and that some from Chile's Pit have been placed amongst them.

I hear, further, that there are several *Chevaliers*

d'industrie from Philadelphia and New York, at work both here and in London to get up companies, for which they are reckoning upon large premiums. I have heard a very curious story of one of these gentry, who seems a second Monroe Edwards, and, like him, he has found it easy to get recommendations from parties of high respectability in the States, to first-rate political and commercial people in France, Germany, and England. Be careful to have nothing to do with any undertakings of this nature ; they are, like the razors in the fable, made to sell.

I think I stated, in my letter of December, that I proposed to visit the country towards the Merced, which I have since realised. I went first to Johnson's place, near Agua Fria, where hopes are strongly entertained that the quartz will prove rich as it is further worked ; but I find that the owners are engaged in much litigation, and strong opinions are expressed thereon, though litigation is the normal condition of mining here as elsewhere. This is in a very fine position for placer diggings.

The hills in this vicinity are conical, having streams, or rather water-courses, all around their bases, in many cases extending nearly to their summits, and are covered with broken quartz, which is again almost wholly concealed by a most luxuriant growth of non-deciduous chaparral and arbutus. It

is a fairy-land ; and the air, owing to the situation—being about 2,300 feet above the level of the sea—is singularly pure and exhilarating. The sun is, however, very hot in the middle of the day ; still, the mornings and evenings are cool, though there are no longer any frosts.

From Johnson's I trudged on foot, wholly unarmed, through the somewhat more open country about the Norwegian Tent to the upper Merced. It is certainly a most beautiful country, and as a retreat for the broken spirits and hopeless myriads in Europe would prove an elysium, if it could be more easily reached. I passed two days here, sleeping under the ledge of a projecting rock, with no other covering than a few branches over my blanket. The river passes through a channel worn by the unceasing current, and is in many places thirty feet perpendicular, from the water to the summit of the wall on either hand ; from which again the mountains slope on the east, with a scarcely less inclination, more than 3,000 feet ; and on the other or western side they are all but perpendicular for more than 1,000 feet. It is a magnificent gorge, or, as it is termed in Spanish, "*canon*" (pronounced as *canyon*). It is believed to be one of the very finest natural gorges in California, and is in itself far more pleasing, and offers scenes of greater beauty, variety and interest, than sights of more ambitious display

and world-wide renown : I would particularly refer to two—the Falls of Niagara, and the Rhine from Bonn to Biebrich, neither of which equal this majestic defile in wild magnificence and imposing grandeur. On the third day I ascended Sherlock's Creek, in which there are many parties doing very well, and thence crossed over the mountain to Saxton's Creek. I passed a great portion of the day at this work, upon which a large sum has been expended without producing any return. The works are now for sale, or, if no purchaser offers soon, the machinery will be removed, as it is said, to another pit about two miles off. This I rather doubt, for though the grey stone, so glassy and unpromising generally for gold, does show more than I have yet seen in this class of quartz, yet the experience they have gained of the deficiency of gold *generally* and *specially*, and of the very imperfect machinery here at work, will, I think, lead them to hesitate before they expend one cent in its removal. Saxton's is a creek of a sterner character than any I have yet visited. There seems to settle over it a heavier atmosphere, there are more sombre trees, the rocks are blacker, and altogether the country is of a more sombre character than any I have hitherto seen. The creek is said to be very difficult and heavy to work, but it is very productive ; I have seen splendid specimens both of burnt and blistered

gold, which, for beauty and the harmony of rich and beautiful colours, would have done credit to the first artist in gold that Europe has ever produced.

Leaving Saxton's Creek, I next struck over to Colorado, a very rich spot at the head of Stockton's Creek. Here I found but few men at work, the water having subsided; but the placers at this spot are especially rich in large pieces,^o independent of, and over and above, a full average yield of grain gold. I refreshed here at the store of a venerable and intelligent old man, Colonel Lively—who has himself a claim from which he has taken from three to five dollars a day, in the very brief space he can devote to this occupation—and descended the Stockton stream, which is one of the most beautiful in California, where all are beautiful. As evening and the shades of night were about to close in, and just as I was about to seek out a dry spot and an umbrageous tree for a bivouac, I heard the bark of a dog, and, following the sound, came to a fenced garden, the first I had seen at the mines, and on the opposite side of the stream was an excellent house—a rare thing in such a wild region. Upon applying for information as to the locality, I was most courteously informed by its occupier, an Englishman, that I was at least five miles from Agua Fria, which it would be dangerous, if not impossible, to reach that night. I, therefore, asked and obtained

permission to spread my blanket before the fire of this really hospitable anchorite, and slept soundly for more than twelve hours. Having breakfasted with my kind host, and learned from him my best course, I wended my way to a large flat called Mormon Bar, from which gold to the extent of two million dollars is said to have been taken. It struck me as being an excellent locality, and the people at work and in the stores seemed much better and more courteous than at many places at which I have halted. The mountains here recede towards the east, so as to leave a large slope, but rise all the higher for having a more gradual base. Descending this stream, I passed some gigantic works—rocks as large as the City Hall in Broadway having been blasted, and the *débris* removed by hand, to enable the miners to work the bed of the Mariposa. In one case I saw forty dollars taken out of one pan; but there had been many days of unproductive work before this rich deposit was opened. I reached this place late at night, and very footsore with my long journey.

I think of crossing the Chuchilla, and making for the spurs of the Sierra, between that river and the head waters of the St. Joaquin, as they project further to the west at this point. I am advised, by the French especially, to desist, on account of the hostile Indians, the bears, the lions (so called), and

the coyotes; but, as I have hitherto escaped danger, I do not think this will deter me. What I most dislike is, to walk in the sun and carry a heavy Mississippi rifle, in addition to my blankets, through hot valleys, up steep mountains, precipitous descents, and, what is worse than all, along the sides of mountains, which incline always forty-five, sometimes sixty and sixty-six degrees. I am more inclined to defer the journey till after the March rains, and to devote the intermediate time to searching after quartz ledges, respecting which, however, I have lost much hope. I have already broken and tried in various ways more than one hundred and twenty different specimens, not in one hundred and twenty different ledges, but in some instances two and in others three specimens from the same ledge, taken from different depths, or different places on the top. Further, these were not ordinary specimens, but were the best I could obtain from each ledge, and in no one instance did I ever obtain as much as would have paid for my labour, reckoning one dollar for ten hours, whilst labour here is worth five dollars for nine or ten hours. I shall go to Guadaloupe next week, and if the machinery is at work, I will write again; if not—and I fear this will be the case—I shall not write till the end of March, or until I return from my journey to the Sierra. This everlasting failure to

find a continuous course, or even paying deposits in quartz, has disappointed me; still I cling to the belief that as large pieces have been found combined with quartz, so similar pieces, perhaps continued deposits—if not continuous veins, in which I have no longer much hope—must yet reward the persevering miner. I have, however, seen occasion to modify my own opinion to such a great extent, in the presence of facts, that I begin to waver a little, even to the realisation of this view. However, I shall persevere, as I see much good to result from a discovery, if such there is to be made. In any case, it is only by the communication of facts that any just conclusions can be formed; and I am daily adding to the extent of my knowledge of the nature, structure, and antecedents of quartz ledges, and I have no fear that, when more is known, the inductive process will result in this as in all analogous inquiries, in a vast addition to our knowledge.

A. T.

LETTER VIII.

GUADALOUPE.

Guadaloupe, 18th February, 1852.

It is stated here, to-day, that several companies have been formed in London for working the rich quartz ledges in this district, and that as much money is ready for this purpose as may be required. I can hear distinctly, however, of only two companies; one called the Ave Maria Company, for the working of Stockton Creek, which I know, from experience, to have no gold in any one of the known ledges, and another to work the ledges in Agua Fria.

I have been visiting all the mines—i.e., the diggings—in this neighbourhood, and have been much interested in what I have seen. The amount of work done is really wonderful, and the reward, in this vicinage, has proved ample. From a careful analysis and comparison of what I have learned, with what I have seen and myself know, I have come to the conclusion that not less than eight dollars, or half-an-ounce per man, has been got out

every working day, in the district. This sum, equal to 32s. 6d. or 33s. English money, has been the *average* reward for a day's work. The maximum for 313 days cannot, however, be taken above five dollars, as there is much illness, drunkenness and idleness, so that many of those who have the richest diggings do not realise so much as many whose claims are poorer. Still, the fact is patent, that for the whole number of diggers the average return is eight dollars per day. At present it is somewhat less, as, although many of the richer placers are nearly worked out, the majority of the miners prefer to prospect in the sides and crevices, to trying new diggings. I have seen one place which had been worked three times, and has produced, this season, an ounce a day, to the labour of two men. You will readily understand, however, that it is impossible to rely, *implicitly*, upon the statements of the diggers themselves. If their claim is producing much gold, they necessarily conceal the amount; first, that the knowledge of a rich spot would bring others to take claims, which would have the effect of hemming them in at both ends, and lead to disputes as to the water; and next, whilst they can keep their gains secret, they reserve more claims for future years. Again, when a good claim is falling off, this is never named, and a sale is often effected upon the strength of its former reputation, although

the lead, or course of gold, has fallen off, or is entirely lost. It becomes necessary, therefore, in purchasing a claim, to stipulate for liberty to work a pit, in order to ascertain whether the gold realises the representations made.

The quartz works here (Guadaloupe) are not yet complete, nor do I think they will be at work for some months. They seem well put up, and are very well situated, being placed upon an unfailing stream, and in the midst of timber. The ledge is considered to be of good quality, and there have been many fine specimens said to have been found here; but of this I cannot speak, as I have, after much search, only found one piece of quartz which had a speck of gold in it; still, if there is gold in quartz, I think they will get it here. It is a private company, but it is intended to throw it open to the public generally, as soon as it is at work. This course seems most creditable to the managers, one of whom, Major Daniel, appears to me well fitted for this office. The engineer, also, is a talented man, well fitted for his work, and equal to any emergency likely to arise. The location is very beautiful, exceeding anything I have seen in the Atlantic states. I saw a Cornishman at the works, a *sober* man, who gets his ten dollars a day, regularly, by placer digging. He has great faith in quartz, but he could give no reason further than

that he hopes, and that his impressions are in favour of finding gold in quartz. I much doubt whether the operations in quartz are generally based on anything more rational than the above.

I shall go to the Sierra soon after the rains, which are now expected daily.

A. T.

LETTER IX.

EXCURSION TO THE SIERRA NEVADA.

The Sierra Nevada, 25th March, 1852.

I DEVOTED the greater part of last month to the search after and breaking up fair specimens of quartz. I have amalgamated half of the powder in the mortar, and have washed the other half, the difference in some cases being very great; in others the result was nearly the same. Taking the mean of the produce by each method, I do not think the very best specimen yielded more than six cents in the pound; whilst, for one trial with that result, I had more than twenty under two cents. My own conclusion, the inevitable result of the trials, made in the hope that I should find much more gold, is that, taking the *whole* of the quartz in this district, the yield would be much less than one cent to the pound, equal in English to a halfpenny in the pound, or less than twenty dollars to the ton of two thousand pounds; and not this even, if the present steam mechanical processes are used, as the results of

trials by hand are always much greater than by the best machinery, by reason of the greater care in the processes, and from the fact that they are only rich or promising pieces that are placed in the hand mortar. It is from want of proper knowledge on these points that the representations made, as I see from the London papers, in the case of the Agua Fria and other companies, have obtained a moment's credence; and I feel only one consolation under these circumstances—viz., that I was early on my guard against these practices, and have never failed, from the first week of my sojourn here, to keep you well advised.

After the rains had thoroughly subsided, I set off eastward, and have had a most delightful excursion so far. On the first day I reached Mormon Bar, and made my arrangements for the further prosecution of my journey by borrowing a pair of pistols and a pair of mocassins, and purchasing a bottle of brandy, some biscuit and jerked beef, or, as it is called on the isthmus, "cancan." This is beef in strips, cut off whilst fresh, and dried in the sun. If done with care it is most savoury and sufficing, requiring but very little cooking, a small cut being merely thrown on the hot embers and turned once. This was my equipment—two revolvers, one bowie knife, about eight pounds of cancan, eight pounds of bread, one bottle of brandy, and about four pounds

of cheese in a tin canister. This, with two blankets, made a rather formidable impediment, as for the greater part of the distance there was no road, not even a mule trail or an Indian path. I took heart of grace, however, from the reflection that the first part of the journey would be over a trail—that afterwards it would be cooler as I neared the snows, and the weight of the provisions would at all events diminish. I left Mormon Bar at noon, proposing to reach the store on the Chuchilla, about eight miles off, that night, with a view of getting information as to my route, this being the last store or station that was known to exist in this direction. From Mormon Bar to the summit of the mountain was about two miles and a half, under a burning sun. As, however, surplus fat is not common in this country, and as my sweating capacity has much diminished of late, I reached the highest point of elevation in little more than an hour without fatigue, the first part of the ascent being a gentle slope. From this summit my course lay along a trail, sometimes very broad and well-beaten, at other times dividing into two, appearing to lead in totally different directions, but which always reunited at a little distance. After I had travelled about two miles along a ridge, the trail divided very abruptly—one path, and that the best trodden, turning down the hill directly to the westward, and the other and less frequented keeping

straight forward. Now, as I had been told there was no further deviation, I was somewhat puzzled; and in the hope that some one might come along, I kindled a fire, and broiled some cancan. This occupied me about an hour, and as the sun began to slant, I put up my provisions and took the forward path, though in much doubt, and after about an hour's rapid walking I heard miners at work, some half mile below me, on one of the forks of the Chuchilla. I found, upon making inquiry at the first tent I came to, that the store was about two miles further, but practically it was four, for it took me an hour to reach it. Here I spread my blanket, got some tea and some grizzly meat, which I found much more juicy and tender than the very poor lean kine in which California rejoices.

In the morning I was told that I should find a party of French miners about ten miles due east, that there was only one trail, and that I could not miss it. As every one tries to dissuade me from going further, and wonders what the devil I can want to see in a country where mill privileges are not likely to be in request, for more than half a century, I shall not in future ask any directions, but strike to the east, fording all the forks of the Chuchilla and the Fraysinous, which are daily getting lower between their banks. I made ten miles before noon, and as the country was open and dry, suffered but

little, though the sun was without a cloud. I passed one level of about twenty acres, in which there were fully as many flowers as blades of grass, the earth on this spot being *literally* carpeted with flowers, and those of the most beautiful hues. Further on, in descending a gentle slope, on which the soil was too dry to nourish grass, the whole area was covered with a profusion of large white flowers. Had the sky been overcast, and the weather colder, it would have been taken for a covering of snow—so thick were the flowers. The beauty of some of these is most extraordinary ; the number of lilies, their size, and immense variety, would turn the brains of the flower fanciers of the old world. They would die from *embarras de richesses*. There is also a root which abounds here, the leaf of which is somewhat like the horseradish, but thinner in the blade, and not so luxuriant in its foliage. This root, which is white, and in shape like a flattened onion, has a saponaceous quality, and is much used in washing both linen and flesh. It is very pleasant to the touch, though somewhat difficult to hold, and has no unpleasant odour.

I passed many large rocks, having circular holes, about the size of one of the balls used in the game of nine-pins. These are made by the Indians with hard stones, and worked till they are perfectly round, when they use them to break, to pound, to

grind, as it were, the acorns upon which they chiefly subsist. These circular holes are chiefly, if not always in granite, and must be the result of much labour. Here too, I saw the remains of two Indian villages, which had evidently not been left more than a year.

About seven o'clock, as the last gleam of light was disappearing, I suddenly heard a *chanson*, as of twenty *artistes*, whom I soon joined, and found the party to consist of ten only, who were rejoiced to see me, as I could, perhaps, give them some news. In this, however, they were doomed to be disappointed, as I, like themselves, came to see and learn, and had nothing to tell beyond the news of the usurpation of Louis Napoleon, at which the party, who were refugees, *sacré'd* for some time. It appeared that, having laid in provisions for the rains, they had not been down to the stores for nearly three months, but that they had sent two of their number to Mariposa for stores a week ago, who had not yet returned, at which they seemed somewhat disconcerted. I had a very courteous, a more than kind, reception, and was pressed to stay for a week. Wishing to give my feet some rest, I agreed to stay one day, which we passed in conversation and feasting. Feasting ? you will say. Yes, *feasting*, and such feasting and festivity as you never had at any tavern, in any city. For breakfast, a very fine

piece of grizzly, which they had killed near their corral, two days ago; most excellent coffee, with the whites of three eggs for milk. For dinner, pork, a stew of bear (most delicious), and some excellent beans; cheese, too, and butter and bread, as good as I ever tasted. For drink, French Cognac and St. Julien Bordeaux, *première qualité*—what would you have more? This feast was held under a very fine evergreen tree, with leaves so thick as to be quite impenetrable to the sun's rays, and eaten with an appetite, and a relish, which I have never known out of California.

These men, all of them educated, many of them highly educated, take a very philosophic view of their condition. They work hard, sometimes eight hours in the cold weather, and in the Spring, Summer and Autumn, which here comprise ten months out of the twelve, they indulge in the *dolce far niente* to an extent which does them credit. They live while they live; while too many of the miners from the States, as well as Europeans, live fast, but without any appreciation of life. The claim here seems pretty good, but these men being all fastidious in their society, prefer getting less here, so that they escape the down easters and the spitters, for whom they have a great dislike. They are a very superior company, and if my French had been a little more at command, and more generally avail-

able, I would have accepted their hospitality yet a while longer. Contrary to my resolution, I confided to them my intention of proceeding eastward, when they all set up a shout of resistance. Henceforth I tell no man what are my purposes ; and although the chief of these kind Gauls assured me that their fears were entirely on their own account, being persuaded that, in the next bear they kill, they will eat me at second hand, I will yet hope to save their teeth this labour.

I could not get away till after dinner on the third day, and then tore myself away, lest I should be unable to move on the morrow. I rested near a stream, having supped upon bread and cheese, and a pint of Bordeaux, given me for that purpose at the French camp, upon a pledge that I would drink to their well being, as they would do to my safety, as the sun disappeared. This I did ; and whether by reason of my utter loneliness, out of, and beyond the uttermost skirts of civilisation, the recollection of the kindness I had received so lately, or that the wine which was unusually strong, had excited my sympathies to a high degree, I should have returned to these kind-hearted men, but that shame came to my aid, and I determined to push on the morrow. With the morrow came fresh hope, and after a substantial breakfast of cancan and coffee, I shouldered my blanket and forage, and went on my way re-

joicing. I did not even look out for the trail of the grizzly bear, nor for that of the Indians, and was traversing a mountain nearly at its brow, when I heard a rustling in a tall pine. On looking up, I became aware, for the first time, that I was under an Indian burial place. In the tree under which I stood, and in seven other trees of similar elevation, I counted twenty-eight graves suspended, affixed or interwoven to the large branches. These graves, so to call them, are about the size and much the shape of a coffin, made of wicker work, much similar in their construction to a magpie's nest, but secured sometimes across two branches, sometimes longitudinally upon a thick branch. From the appearance of this cemetery, I should not have judged it to be very ancient—probably about six years since the first graves, or coffins, were constructed, and the more recent ones not more than two years. About a quarter of a mile below this spot, in a most picturesque locality, where large rocks and most graceful trees form, with the bright clear sky, a natural pavilion, are the remains of an Indian town, deserted, apparently, about a year.

Passing by these evidences of civilisation, and *high* regard for ancestors, I reached a valley, through which passed a very rapid stream. As this seemed to flow nearly west, I determined to ascend it and to sleep on its bank, or if possible, to reach the

summit whence it arose. After ascending for nearly three hours—during which, so difficult was it to make progress, that I do not think I had advanced more than two miles—I came to a canon, more black and hopelessly impassable than any I had yet seen. To turn back was not to be thought of, as I had five days' provisions left, and was only two days' from resources. *En avant* was the word, and after two hours' hard toil, I ascended one of the slopes, by which means I kept the line, and reached the stream near its source. Here I slept—that is, as well as the coyotes would allow, but these foul beasts approached so near, that I was kept awake till the sun rose, after which I slept soundly till noon.

In preparing for my breakfast, I discovered that my cancan was gone. This had been left uncovered, at about the distance of three yards, and had not been suspended, as there was no tree near. With my provisions thus reduced, I had but two alternatives, either to go on for one day, with the certainty of being obliged to return the following morning, or to return at once. As, however, I had seen the day before, a spur of the Sierra, which seemed to thrust itself forward like a buttress against the mighty mountain, I determined to go on, and here I am, two miles from the foot of the Sierra, and within five-hundred yards of the snow.

I have encamped at the foot of the mountain, and

have a roaring fire, but feel the cold very much. To-morrow I shall ascend to the snow, and then return to the French camp.

Friday night, French camp.—After a very cold night, I awoke at sunrise, and replenishing the fire with large logs to be ready for breakfast, I ascended the Sierra to the snow, exploring the formation and peculiarities of the surface, with relation to its gold-producing properties. I found nothing, however, likely to compensate in any measure for the privations which the miner must here undergo ; and although, on this journey, I have seen many quartz ledges, I have seen no gold in any of them, nor do I believe that gold will be found on quartz east of the high ridge which forms the western boundary of the Sierra Nevada.

The cold being intense, I descended very rapidly to my camping ground. Having no cancan, I made a breakfast of coffee, and finished my brandy. I had then nothing left for a two days' march but biscuit and cheese ; but as I now began to get accustomed to the ground, I made the French camp in much less time than it had taken me to go, and was most cordially and courteously welcomed. I propose to stay here two days, and then to go direct to Mariposa.

A. T.

LETTER X.

THE MARIPOSA QUARTZ WORKS.

Norwegian Tent,
28th April, 1852.

I HAVE delayed writing till the last day, with the view of giving you all the information possible as to the existence of the various ledges, upon the assumed riches of which, it seems, people have been so ill advised as to advance large sums of money.

The Agua Fria concern is to me a mystery. There is no rich ledge, nor any ledge at all containing gold, belonging to Palmer, Cook, and Co. The specimens exhibited, therefore, have not, *cannot* have come from it, and the parties must have been deceived in the matter. Of the West Mariposa I can only say that there is such a ledge, which at one time had the credit, or rather the hope, of being rich ; inasmuch as rich specimens—loose specimens or fragments—containing much gold, have been found within a moderate distance of this ledge. Palmer, Cook, and Co. erected machinery, but, as they found no gold, they soon backed

out of the concern, which was then let to parties at San Francisco, of the name of Goodhall, Lord, and Co. These parties agreed to rent the works under lease, paying one third of the gold produced for this privilege. It is said that they took all the gold produced, and left the men unpaid. At all events, this party is *non est inventus*, and the concern is now in the hands of two Cornish miners, who have taken it in execution for wages. It never produced more than forty dollars in any one day, whilst the expenses exceeded seventy, during the time it was at work, which was not more than one day in three, owing to derangements of the machinery, for the repair of which no means exist nearer than Stockton, about eighty-four miles off. These works are closed, and the materials nearly all abstracted. I believe that the property has reverted to Palmer, Cook, and Co., by reason of the lease having been forfeited ; but of this I am not sure. Any attempt to work a mine so well explored as this must be folly, and can only end in loss. The Ave Maria is a concern based upon the most absurd ledge in the whole country. It is in a district (Stockton Creek) which is notorious as containing less gold, whether in the soil or in the gulches, than any other for miles round. The quartz is not gold-bearing quartz at all ; and, in addition to its other defects, is crystallised throughout. Such

quartz is ever guiltless of gold. Carson's Creek is, or rather has been, rich in placers ; but the quartz is, as usual, with specks, but without metal enough to pay half the expenses of reduction. The assertion that there is gold to the extent of 1,000,000 dollars already extracted, is one of the boldest assertions yet made. It is true that there is much stuff at surface, but it is not rich enough in gold to make it worth reduction, although a very great proportion of the cost has already been incurred in sinking shafts and raising the quartz. The assertion, therefore, that there is this amount already raised, even if true (which I more than doubt), is a gross delusion, seeing that, in any event, it would cost more to extract the gold than there would be gold found to repay. This is only one out of a number against which the folks in the old country should be upon their guard.

A few miles from this, and nearer to Mariposa, the water is made to pass over a slope, and to fall into an excavation, in which the rock rises up less rapidly than the hill or *country*, as it is called. This is a new process, and much gold has been taken out—obtained, mainly, by the water channel being used as a sluice, into which the dirt is thrown by hand. There is great economy in this process, and it is likely to be adopted in other placers where the situation is favourable ; in fact, I am inclined to

think that, in suitable spots, and where the men would combine, the profits would be more than doubled. Why do not the men in your country form a company upon this plan, and not pursue a will-o'-the-wisp in the shape of quartz? They seem to me very much to resemble the Frenchman, who is made to say—using the two words applicable, as in all cases identical, or varied terms for the same thing—“I will be drowned and nobody shall help me.” So these plethoric Englishmen seem, by their acts, to say—“I will lose money and nobody shall hinder me.” If one tithe of the money which has been lost in the pursuit of gold *where it is not*, had been expended in raising it from places where it is *known to exist*, and in paying quantities, the losses now likely to accrue from these schemes would have been averted, and a large profit realised. There is gold in this district north, south, east, and west, in every direction for miles, but not in quartz—at least, not sufficiently to pay expenses; and my researches have now been so far extended as to justify the deliberate assertion that, if all the works spoken of, of which I have any knowledge, are proceeded with, the return will not be sixty-five per cent. upon the expense of crushing, calcining, and amalgamating, leaving out of the question the expense of sinking pits, raising the stone, and erecting machinery. If the accounts are honestly kept,

I should say not more than forty-five per cent. upon the total outlay and expense. Assuming, of course, that the machinery, houses, sinking, &c., are placed to capital account, the interest on these, with dilapidations (and in Europe you have no conception of what this charge amounts to here), would, on an outlay of 100,000 dollars, reach 100 dollars per day, or thirty-five per cent. per annum on the capital. In this I do not include the rate of interest current here, which, being three per cent. per month, would, for an undertaking confined entirely to California, alone amount to this per centage; although, as this interest can be readily obtained here, it ought strictly to be charged on all capital brought into this country. As if this was not bad enough, the Ophir proprietors are now in treaty with a European company, called the "Nouveau Monde," to sell their works—which, as an old Mexican miner says, are in "boraseo," *i. e.*, quite unproductive—for a very large sum, and subject, in addition, to a further very heavy payment, and a royalty of $33\frac{1}{3}$ per cent. upon all the gold produced. Can you wonder that the inference is here as universal as it is natural, that Englishmen are made to be fleeced?

I have visited Calaveras, which is yet rich in placers. The country is favourable for diggings, but the quartz poorer than about Quartzburg. Thence by Tuolumne Hill, I reached the city of

Sonora, and its dependent towns. This has been a very rich neighbourhood, but there is a great want of water in those places which are considered rich. This will, however, soon be remedied, as they are about to cut a canal from the head waters of the Stanislaus ; but I fear that if the projectors make a charge sufficient amply to repay the outlay and risk, the poor diggers will find themselves washing *for*, as well as *with* water. The country between Sonora and Maxwell's Creek is very beautiful, and presents many places as yet unworked. Indeed, such is the effect of the wonderful discoveries said, apparently with truth, to have been made at and near Melbourne, that many miners with claims yielding much above wages—*i. e.* more than 30 dollars a week—have undertaken a long and expensive journey, and a still longer voyage. The total expense of this voyage cannot be less, including loss of time, than 500 dollars, and many men have left the Mariposa, Chuchilla, and the Maxwell diggings, where their average earnings were much more than 5 dollars per day ; such is the restlessness which this life engenders, and which belongs in a peculiar degree to the men from the States.

The country for many miles round Maxwell's Creek is very fine, but I fear it may never become the permanent residence of white men, owing to the want of irrigation. I have seen but little game in

this region, the miners being all sportsmen, in addition to which there are many professional hunters. I observed, though not for the first time, many of the tallest pines with the bark or outer rind perforated with holes of nearly an inch in diameter, and about two inches in depth, each hole having one of the largest and finest of the very fine acorns of this country inserted with the thick and smooth end outwards. These holes are made by the beautifully plumaged bird, the Californian woodpecker, and are so nicely fitted that, whilst the bird by driving its sharp bill can draw out the acorn when acorns become scarce, the squirrel can get no hold of its thick polished round end. I have, in my travels, seen many admirable contrivances of birds, beasts, and insects, but have never at any time seen so nicely adjusted an adaptation of means to ends as in this simple but most efficient contrivance; I have seen more than a thousand of these acorns (always the finest produced) studded in the boll of a pine, commencing near the bottom, and extending as high as fourteen to sixteen feet. They are always dry, and about this season are not bad eating, being less acrid than the European acorn at the time they fall, and losing almost entirely that taste in late spring. It strikes me that some means might be devised by which this bitter taste could be neutralised, or separated after the manner pursued

with tapioca ; and this would afford a cheap and nutritious food at a season when produce of all kinds is both scarce and dear.

There has been a disturbance between the Mexicans and the miners, and there is a talk of a foray being made to drive the Mexicans away. As the more intelligent and better disposed of this community are, however, opposed to all violence, especially organized or preconcerted outrage, I do not think this will come to much.

LETTER XI.

THE "NOUVEAU MONDE."

Mount Ophir, 28th July, 1852.

I HAVE been so much occupied with other matters, that I have had little time for writing. I have now, however, a little leisure. I have prospected lately a flat down to the rock, and have obtained the certain knowledge that it will pay; consequently, when prepared to work it, I shall take up this claim, which is of an extent to occupy ten men for some years. The gold is coarse and abundant, paying from within three feet of the surface, and being proportionally richer at the bottom. Whilst others are losing time and hope in the vain expectation of discovering continuous veins of gold—veins that do not exist, though a chance deposit may occasionally be found—I have been steadily inspecting the country for *placers*, and have been so far fortunate. I have not confined myself to one locality, being desirous to have the choice of several at some distance from each other, so that in the event of being blocked up in any one claim, I may

have others to fall back upon for future years. Taking all the known circumstances into account, I am quite satisfied that the course I have pursued is the profitable as well as the prudent course. Less than £1,000 will suffice to bring water, and to work the most expensive of these placers down to the bottom rock ; whilst in one the water is so near that the outlay can in no case exceed £100, and this last may prove not less productive than the first. I shall, however, in the first place, open the work of which I am quite sure, and for which the sum of £200 or £250 will be needed.

The works at this place are in the hands of an Anglo-Franco Company, called the Nouveau Monde. I learn it is their intention to sink to a great depth; the experience of the manager in other countries having led him to think that the quartz will be richer as they descend. To those who have had more experience in mining in this country, this seems sheer obstinacy, as all the trials hitherto made have established the fact that quartz is poorer in depth. It is this uniform experience which has led to the conclusion that, at some antecedent period, the quartz ledges were projected out of and above the surrounding earth or rocks, and were then rich in gold above the surface ; and that their abrasion, whether by volcanic action, or as the result of violent currents, has led to the diffusion of this gold

throughout the whole of the country. This theory seems plausible, and may be true ; but in any case you can need no assurance from me that the quartz is now so poor that it will not pay the expense of extraction ; that there are no continuous veins of gold in quartz ; and that if the quantity found, whether in spots or the still smaller portions which may exist in the state of infinite diffusion known as the flour of gold, were doubled, it would not pay, at the present price of labour, and with the present modes of extraction. Unquestionably, gold has been found at great depths in South America, in combination with silver, copper and other substances, and even in close contiguity to portions of quartz, but there are no *veins* of gold. The people sent here are too bumptious, far too swaggering, and this has a bad effect. The superintendent is a man well fitted to the office, though, from having to deal with vast capitals antecedently, he is perhaps better fitted to superintend a *large* outlay, than to make even a *small* return.

A. T.

LETTER XII.

BEAR CREEK.

Bear Creek, 14th September, 1852.

I ARRIVED at this place about a week ago. In coming from Agua Fria I missed the trail, and had to pass through the chapparal for nearly two miles; and as this consists of a very thick bush, I fared worse than a long-woolled sheep, nearly all my clothes being torn to shreds. I had not foreseen this mishap, and having my cloth trousers and coat on, I was nearly naked when I arrived. Out of evil, however, comes good—as I passed two men well armed, who had robbed a traveller about two miles further on, and who doubtless would have done the same by me, but for the wretched appearance I made. I met five armed men, who were on their trail, and who, I subsequently heard, shot one and took the other prisoner.

The country here is, if possible, more magnificent than any I have yet seen, the solitude more profound, and the mountains more beautiful in their

forms, and in the foliage with which they are alternately covered and interspersed. There is, however, no water; though in some few places, which had evidently been previously quite dry, I observed evidences of springs beginning to fill. I mentioned this to the only man I met, and who pointed out to me the right path; and he stated that in the creek in which he worked the water had materially increased, although there had been no rain for months in any of the mountains whence its sources are derived. Being interested in this matter, I inquired if this might not arise from rain having fallen on the higher range about thirty miles off; but was informed, and subsequently learnt from concurring testimony, that this had not been the case, and that it was not, as then believed, from any known rain, but that it must be taken as an *indication* of early rain in the district. I conclude, however, that this must be connected with rain in the more distant and inaccessible ranges, and as these rains occurring earlier in the mountains are certain indications of approaching, or at least of earlier rains in this lower region, I incline to the belief, that the rains will be earlier this season. This appears also to be the more likely as the two last years have been drier than any known to the present occupants—*inhabitants* they are not, in any sense. As, however, I have to do with the earth,

and not with the heavens, to grovel in gravel, and no longer to soar in the empyrean, I attach less importance to this than do many others, to whom rain is indispensable. An early rain is equivalent to an early stoppage of the quartz works; another of the peculiarities of this country, and another reason in favour of placer works, which are benefited in every way by rain, whilst it is nearly ruinous to the majority of quartz works. It is rain which, by its action upon the surface, and on the abrasions, whether natural or artificial, releases the gold from the soil or from the rock, and causes it to descend into the water channels—thus leading to the inevitable conclusion that by water, artificially applied, the greatest results are to be obtained. All gold hitherto extracted has been by means of water washing the whole of such soil as chance or nature has submitted to its agency; and I cannot doubt that, if the rich bars and bottoms were submitted to the same action, vast results are yet to be obtained. It is by an attentive study of nature alike in its more minute as in its grandest manifestations that we are most certain to arrive at successful results; this has been overlooked by those who seek to force nature to give up gold where gold does not and never has existed to an extent at all adequate to the expense of extraction—viz., in quartz ledges. The more I see, whether here or elsewhere,

the more I have reason to conclude that this country abounds in gold to an immense extent, and that it exists over the whole surface of the primary rock. I have read much, and conversed more on this subject, and I am quite satisfied that where labour in combination with water shall be applied, exactly as nature has applied it, to the release of the gold, the returns will be ample.

But little is known, and still less can be predicated, of the future of California. At present everything is temporary, even in the towns, as the tide of speculators is apt to rush with a fury which cannot be realised by the inhabitants of a settled or an old country. Here is no cultivated land,—not from natural barrenness, nor even the absence of means for irrigation to a sufficient extent, but by reason of the great expense in the first outlay beyond what is required in mining, by the delay in obtaining returns, the expenses of storage, and above all the cost of labour, which enhances the price to such an extent that it will always be cheaper to buy the flour produced by Chili, or even that of the Eastern States, than to raise it here. The singular splendour and mildness of the climate, its salubrity and its magnificent scenery, combine to render Middle California—*i. e.* the high lying country at the foot of the Sierra—one of the most beautiful, the most healthy, and the most enjoyable in the world.

To use the words of an educated Englishman, "One feels to want cannon balls tied to one's feet to prevent one from bounding upwards—so great is the exhilaration and buoyancy of life here." It has been said of Seville, "He who has not seen Seville has seen nothing;" and this is the very expression made use of by all from the old country. We may, however, reverse the proverb applied to Venice, "Let him see Venice, and die," for here a man can neither die nor is he capable of wishing to die.

In California, as elsewhere, there are unhealthy spots, especially in the low grounds, the Tulé swamps, and near the beds of the larger rivers; but these at present are not the locations where you find any population. There are also accidents, and very severe ones, owing to neglect and carelessness, and especially to the careless manner in which many men expose themselves to work in cold water almost at freezing point, whilst the heat of the atmosphere ranges at midday even in winter from 56° to 65°; but these are matters within every man's avoidance. The greatest cause of illness here is, excessive drinking, which—an evil at all times and everywhere—is a greater evil here by reason of the great mildness and warmth of the climate. Miners who have been lucky generally indulge themselves with what is called a "burst," viz., a drinking fit, continued often for a week or

more—in fact, as long as they can down with the dust—during which time they are constantly drunk. You can judge the effect of a week's drunkenness even in your temperate climate, where your potables are for the most part genuine, and, owing to the coldness of the climate, have in some measure the effect of a tonic. What then must it be here, in a climate where the sun's heat ranges at 95° in the shade for months, and is rarely below 65° whilst the sun is above the horizon. The poor miner, after having worked hard for weeks, may be for months, having thus indulged in his great festivity—*i. e.* having drank every day a bottle or two of bad rye whiskey, sundry cocktails, wine and bottled beer—finds himself without money or credit. He returns to the diggings faint, sick, more dead than alive, and attempts to renew his labour; finding this impossible, he lies down, unwilling to take the trouble to cook his food, which, when cooked he is unable to eat, and becomes the prey of all the ills that flesh is heir to. Of the deaths here, three out of four are directly owing to drunkenness and its consequences. For myself, and for those others with whom I have associated, this climate has been with one accord pronounced the finest we have ever known or heard of. It is capable of producing, and in the south, where there is some fine cultivation, does produce, in great abundance and perfection,

all the fruits of Europe. It is a climate in which you can sleep in the open air ten months out of twelve, and where, after three or four days' incessant rain, the earth is dry in four hours. There are few venomous reptiles, and no dangerous beasts, if you except the rattle snake and the grizzly bear, both of which get more rare every day.

A. T.

LETTER XIII.

SHERLOCK'S CREEK.

Sherlock's, September, 1852.

YOU will not expect that I can have learnt much of importance since my last. I have, indeed, been little in the region of quartz works, though the whole country is intersected by quartz ledges, or covered with quartz broken into small pieces. The whole of this part of the country is most splendid, reminding me more of the scenery of the wilder Apennines than any I have yet seen; and it is far more beautiful and infinitely more salubrious, during *all* the year, than Italy is at *any* season.

There is here a large sluice, the stuff being dug from the side of a hill to the depth of sixteen feet, and carted to the sluice a short distance below. This is one of the most productive ledges I have seen, and is in a place where no one would, previous to the actual discovery, have thought of digging.

At this spot I first saw a bad case of the poison oak. The oak sap, or vital fluid, had in the first instance come in contact with a slight abrasion of the

skin on the leg of a digger, who, unconscious that he had imbibed the venom, used his hand to pull off the branch. Being, however, too deeply rooted, it tore his hand, and the naked surface of the branch coming in contact with the wound, he received the virus in the arm also. This a very bad case, perhaps one of the worst that has ever occurred. The leg is inflamed to a frightful extent from the joints of the toes to the knees, and is very much discoloured throughout. The arm is inflamed, with a great swelling or boil under the armpit. This poison, though not ordinarily fatal, and rarely to temperate men, is often so to confirmed drunkards. It takes from five days to a week for the swelling to subside; and as the symptoms are as alarming as the pain is excruciating, medical aid is usually resorted to, at a cost frequently exceeding fifty dollars. It is altogether a very serious affair. One of the men working at my claim in the lower creek was poisoned in the leg, and the cost, apart from ten days' acute suffering, amounted to 105 dollars, including medical advice, medicine, and loss of time. I have frequently handled this poisonous wood without having been poisoned; but I am particularly free from the influence of contagion. I believe the application of water (sun heat) is the best cure, especially if continued long enough; but abstinence from alcoholic liquors is essential to a speedy cure.

And now let me offer a word of advice to intending emigrants from your side of the ocean, whose eager search after the glittering treasure, and whose desire to get rich in haste, may lead them to neglect the precautions of the most ordinary *hygiène*. I of course speak only to those who have sufficient self-respect to avoid the beastly drunkenness which is so great a curse and so great a drawback to this calling ; and these I would earnestly warn against that want of prevision (by many called daring, but which is, in truth, unmitigated folly) which is shown in the choice of a digging. Scores of men, whose gains are all spent, lost, thrown away rather, at the gaming table at *monte*, or at cards, will neglect a healthy, convenient, and easy digging, of which the returns are good and regular, for one at the bottom of a deep ravine, in a dense wood, or in water issuing directly from the mountains (and which, from its not having been exposed to the rays of the sun, is nearly as cold as ice), if the gold yields half a dollar per day more. For this they will walk a mile further morning, noon, and night—in all four miles—and work harder than would be needful in their first claim, to produce the same results, and will incur that retribution which nature invariably appoints to those who violate her most obvious laws. The loss of health in this ease is, of course, followed by loss of strength and productive power, and an

expense for medical aid which is often ruinous, and not always nor invariably efficacious, though in every case very costly. It must be evident that, where the circumstances are similar, or nearly so, but where a great risk of illness is incurred, no possible increase in the value of the digging can be adequate compensation.

This is, in every point of view, a delicious country, every sense being delighted. The landscape, diversified to an extent of which a European can hardly form a conception, is planted, so to say, with more taste and in better harmony of proportion, form, and colour, than it would be possible to produce artificially. Every turn, every glade, every reach of the main creek, junction of a gulch, or course of a ravine, differs from all others, and has a character as distinct from all others, as *individualised* as are the features and intellect of a man. The manzanita abounds here, as do the wild fig, the arbutus, and a vast variety of berries of different sizes, mostly pleasant to the taste, and pleasanter still in the form of the expressed juice. Some of the trees here are of vast size.

I feel satisfied that in this immediate vicinity there is work for five hundred men for years, and that a finer spot for a farm does not exist; as the distance is very great to the nearest market, and the roads are the worst in the country. There is

much drunkenness, however; and this, the greatest of all evils, is not to be abated in a migratory population, where the decencies of civilization, so called, are wholly inoperative. Gambling at monte and roulette, card-playing at the national games of lucre and polka, is a mode of getting rid of surplus wealth much in vogue here, where the gold is very abundant throughout the lower part of the stream.

In a little excursion, yesterday, I passed through a small valley, the most pleasing and secluded I have yet seen. It is a perfect oval, having no vent or visible drain whatever; but, as there are many water-courses on the declivities of the hills and no deposit of water apparent at the bottom, it is evident that the water has the means of easy and rapid escape through some channel or vent similar to those mighty chasms called swallows, of which one is familiar to you, from having seen it as one of the wonders of the Peak, called in the vernacular and plain-spoken Saxon of that Saxon locality by a name with which *you* would be shocked, being a member of a civilised community, whilst *I* think where no harm is meant no harm is done; nay, I believe that all paraphrases of homely words only the more clearly indicate a pruriency in thought and real indelicacy of expression. It is only when you become fine, and try to paraphrase what

cannot thus be dealt with, that you become nasty. Over delicacy is always indelicacy. However, to our *muttons*. This valley, of about six acres, containing nearly as much flat land as Monsal Dale in Derbyshire, is a beautiful spot, and would be a veritable paradise to any of those thousands with which Europe teems, who, whether from broken fortune, blighted hopes, misplaced affection, or disgust with a state of society heartless, complex, and artificial, yearn for that calm and security which Europe no longer offers. To those whose activity of mind has, from being thwarted in all their aspirations and endeavours, become morbidly sensitive and irritable, this would be a very heaven. With calm in the external world, secure from the tempests which pass over the mountains, with all but eternal sunshine, with a climate at once pure, warm, and invigorating, life would have a new value. As when from some vast mountain you first see the world at your feet you are elevated above all sympathy with the toiling and irrational pigmies at such a vast distance below, so in such a calm retreat as this, with all the needs of life easily procurable in the greatest profusion, with moderate exercise, a mind otherwise unhappy would soon partake of the spirit of the place. Believe me, that as it has been said that "In my father's house are many mansions," so are there here many gardens, waiting for those to

whom an irrational state of society has proved an unmixed curse. Yes, this region, investigated and overrun for the sake of its gold, is so surpassing in its loveliness, and, at the same time, its grandeur ; possesses such a serene and beautiful climate, an atmosphere so clear and salubrious ; has seasons so clearly defined, and a soil so fruitful and so generally productive in its valleys ; presents such a magnificent flora, and is adapted to such a variety of culture, at an expense of labour so insignificant, compared to the certain return ; that it would be a paradise, in more senses than in those dreamed of in our philosophy, to educated, refined, and, at the same time, *self-relying* Europeans.

A. T.

LETTER XIV.

ERRONEOUS NOTIONS IN EUROPE.

Mariposa, October, 1852.

WE are somewhat at a stand-still here as regards quartz mining. It is, however, expected that some of the English companies which have subscribed capitals will speedily commence operations, and the promising appearance of one or two of them in this region will no doubt lead to such a result. The litigation as to the ownership of the Merced Ledge, bought by the *Nouveau Monde*, is still in progress.

This company is under able direction, and there are many who hope, that when a sufficient depth, say 200 to 300 fathoms, has been reached, the gold will be found more generally diffused. This I know is the opinion of the very experienced captain and superintendent, based upon his experience of silver mines in Mexico and South America ; but it may be open to doubt whether the analogy will hold in

the quartz region. It does not hold in Virginia, Georgia, and South Carolina ; and it certainly does not consist with our experience here, which goes to show that the quartz is richest at the highest elevation. I very much fear that the staff of this company is too large.

A great error in opinion exists, especially in Europe, as to the quartz ledges. It is supposed, chiefly owing to the specimens (mostly river specimens), that have been sent eastward, that gold exists throughout great masses of quartz rock, over and above what may be diffused throughout the ledge in the form of flour of gold. The gold specimens sent to Europe are found in separate and isolated lumps, or boulders, near or distant, but always distinct from the ledges, or in the beds of rivers or ravines. It is true that gold is found on the stopes of ledges, which are starred over with spots of gold, and which might almost justify the opinion that, in some of the many changes this country has undergone, gold has been disengaged under the influence of immense heat, and, having escaped in the form of gas, has become condensed by coming in contact with the quartz. Be this as it may, and it is at least as probable as any of the other theories, gold is never found regularly and continuously in a quartz ledge, but only partially and fragmentally, and then chiefly on one side. It is this which must

make the erection of very expensive machinery here of doubtful policy for some time to come, as well as by reason of expense of fuel and the continuous high price of labour, which, for a crushing mill, would not average less than six dollars, or 24s. 6d. per day, per man, all round. One of the most promising of the mills in this district, the Guadaloupe has gone into work lately, and, as I hear, with success. The Ave Maria has for the present suspended operations.

In my next I will either furnish you with some detailed information as to quartz working by the new and by the old methods, or I will explain to you a mode by which great advantages may be obtained from placer washings.

I forgot to say that the Rocky Bar are not doing quite so well.

There is abundant scope for mining, both placer and quartz, but not as at present carried on by men whose chief characteristics seem to be undue assumption and depreciation of the American processes.

I will also enter into considerations, in my next, as to the future of this vast auriferous deposit.

I may as well mention to you that Wells and Northey's company took out of their claims 9,000 dollars one week, and 5,000 dollars the one previous; and that M'Cann's company turned up, in Sherlock's Creek, 700 ounces, or 11,200 dollars in one week;

but these were both placer diggings, which involve little outlay, and, *therefore*, have not attracted that attention which their unquestionable security would seem to merit.

A. T.

LETTER XV.

COLORADO.

Colorado, October, 1852.

I AM here for a few days for the purpose of exploring, or rather prospecting, a gulch and flat in this vicinity. I have been successful to this extent: that in the only place where I reached the primary rock, the dirt yielded fifty cents. to about a dozen pans. This would be equal to, at least, twenty dollars a-day to a ton; and as the ledge shelves very much to one side, there is every reason to believe that, though the work would be deeper, the reward would be greater. This is the highest position, relatively to the summit of the individual mountain, in which I have ever found gold in a stream, and is in a spot very unlikely to be worked by others, seeing that it is not only very secluded, but is very high, and without water enough to wash in any other way than by the pan or cradle, except just at the period of the rains. The position of this gulch and flat, at an elevation so great, and

in a solitude so profound, has, for me, great attractions ; but it has one slight draw-back in the eyes of many diggers : it is near the Indian territories, and the Indians have been so persecuted and so abominably treated, that I do not wonder at their being driven to retaliation. Of the Indians I have myself little fear, as their numbers are gradually decreasing, and their spirit is quite broken.

This is the fourth place in which I have found gold in sufficient quantities to pay well for a large and extended application of water at the proper season ; and I will henceforth seek for deposits only where there is water all the year. These seem more difficult to discover ; first, by reason of their proximity to existing works in the vicinity of which all likely places have been tried or worked ; and next, when discovered, they are more likely to be worked by others. In this pursuit, to which I have devoted so much time already, I have never felt the least exhaustion, though exploring and travelling the whole day ; so balmy is the air, so beautiful and so varied the scenery through which I pass or in which I labour. The sweet savour of the odoriferous herbs which are crushed and bruised at every step—the profound calm—the unbroken silence—the glistening of the streams along whose banks I travel, and the delightful shade under which the road often passes, make this country a

perfect paradise. Would that we had more men of leisure here; it would be alike a blessing to themselves and to this country. At present the population is almost entirely male; which is, on balance, a great evil. I say on balance; for, though there is a French *mot* "Women, God bless them, we can neither do with them nor without them," yet the tendency here, as elsewhere, is always to magnify the value of that of which we are deprived. Still great as would be the evil of European or American exclusivism here, I incline to think that it would be greatly modified in this country, and that the presence of women would be an almost unmixed blessing.

The advent of fifty or one hundred families of the unprovided but educated class from Europe would be a great good both to the country and to the parties themselves. With a little labour there would be all of enjoyment, and that too in a climate and in the midst of scenery in which to live is to enjoy—to be, is to be blest.

It may be necessary to say here that this country can never become an artificial one, as the distance of one agricultural colony from another must, in every case, be considerable; and that, gold being disseminated universally throughout the mountain ranges and on the bottoms of the streams, it is not probable that there will be many uncongenial in-

truders. There are here, at present, no land-sharks or speculators; and *every* adult can record by the law of the state 160 acres of land wherever he may choose—deposing that, to the best of his belief, the land has not been previously claimed, that he has no other grant or recorded estate, and that he will invest forty pounds in its improvement within ninety days from the day it is recorded.

A. T.

LETTER XVI.

DECEPTIVE PRACTICES.

Mariposita, October 27th, 1852.

I HAVE little of interest to report in the way of actual operations in quartz crushing. As to the English companies, "the *cry* is still they come," but as yet few have arrived, and those few are so puzzled with what they see and hear, that they are at a loss what to do. That this splendid region abounds with quartz and with gold is unquestionable, but hitherto they have been found separated. I speak here of masses. Still, the complete truth as regards the gold-bearing character of the country has yet to be ascertained, and it will not be found out by the guesser or mere prospector, but by the man of practice and experience. At present all is guess, and hope, and chance. But little has been done, and I fear but little will be done, until some man shall unite the experience of a practical miner with habits of philosophical—not merely chemical—analysis, and shall boldly act upon the convictions

at which he may arrive. A practical miner, who has made 1,000 dollars, will adventure his money in working a bar, will turn a river, or make a channel to bring water to a rich dry digging, but he will never adventure upon an experiment. You may rest assured that there is gold in this region, and to the eastward to an extent which would be deemed quite fabulous; but it can only be obtained by scientific, skilful, and steady seekers. Until such apply themselves to the work the gold from this country will continue, as heretofore, to be mainly from the placer diggings, with an increased amount from the quartz works as they come, one by one, into operation.

There are some statements made eastward which require setting right—such as those I have lately seen in a prospectus, regarding a quartz ledge, in a London paper, wherein it is stated that a large estate has been secured *here*. Now, as *this* is all mineral land, there can be no estate in any sense, since a record or purchase gives no right to the minerals, and as to any other value it is simply ridiculous, inasmuch as a thousand acres of mountain land would be a heavy loss as a gift, one condition being that permanent improvements to the value of 200 dollars for every quarter section, or 160 acres, shall be made within a period of three months. Against these and similar mis-statements I wish to

warn you, as here they have a very injurious effect, and tend to lower the character of your countrymen. For myself, I rest upon the certainty that gold exists here in considerable quantities, and that it will certainly be found on the application of the proper means. It exists blended with the quartz, but not to the same extent as before the great convulsions which have evidently rent and torn this region, and released the gold from its matrix. What is singular, and, but for this hypothesis, would seem anomalous, is that the quartz rock is nearly always poorer as you go deeper. *All the rich specimens of any size have been found either in the beds of rivers or in surface fragments.*

I sometimes think you Englishmen reason after the manner of Fluellen, who associated Macedon with Monmouth, because they both began with an M, and respectively had rivers. Gold and quartz have been found associated in California, and you argue that therefore gold must be abundant in all quartz. This is an error which will find its own cure, and not unlikely in many cases lead to profitable results not contemplated, or even dreamt of, at the concoction of these schemes. Certain I am, that with one-hundredth of the capital of these companies (certainly less than one-tenth of what has been expended in extraneous and preliminary matters), a region could have been developed known to be

abundant in gold, and requiring only a patient and persevering endeavour in the preliminary operations. I would warn you especially against all companies got up in your country, founded only upon representations *from this side*. Apart from positive misrepresentation and bad faith, which sometimes exist, the naturally sanguine temper of every miner leads him to "paint the lily;" and then, when an agent is sent over, it is perhaps too much to expect that he should report against a work which would afford him a *douceur* from the owners of the ledge, and an ample income for life. When I say ample, I refer to salaries of 10,000 dollars, which, for inchoate works, *seems* liberal.

A company, as I have before said, should always choose its own ledges here; and then the superintendent becomes responsible for, and interested in, making a good choice.

Placer diggings have been very successful in the Mariposa Creek this year, and spots known as having been worked three times have yielded more than at any previous period. I picked up a piece of the weight of twenty-one pounds, containing fifteen dollars of pure gold, whilst prospecting with a pan in a shoal stream which falls into the Mariposa, where, however, many pieces of that value, and much higher, are found every day in the deep diggings, from twelve to nineteen feet deep.

The first company that declares a dividend will not only have my best attention, but that of many other inquiring minds in this region. It will present an example to follow or to be avoided, and it will be very important to ascertain which.

A. T.

LETTER XVII.

CONDITIONS OF SUCCESS.

Norwegian Tent, Mariposa, November 1, 1852.

IN one of my letters I stated that the resources of this region are quite inexhaustible within the present generation, but I know not whether I laid down the conditions under which alone the productive powers of this vicinage can be developed.

In an old and long-settled country, like England, the capitalist has ample scope and verge enough for his capital, if he can only form, devise, or discover some new or good mode by which cheap labour can be employed, under new combinations, with advantage. Now here the rate of wages puts all poor works out of the question at present. The price of good labour—that is, really efficient and experienced labour—is from 90 to 180 dollars per month, with rations; and, as it is quite impossible to board able-bodied men, who work ten hours a day in summer, for less than seven dollars per week, the cost of labour—such labour as is alone worth having—in

wages and food, is 118 dollars, or within a small fraction of five dollars per day. Now, it is quite evident that if twelve hours is required for those who are employed in crushing-mills, that a larger pay must be given, to say nothing of the amalgamators, the superintendents, and the engineers. These latter are paid from eight to ten dollars per day; the amalgamators from ten to twenty dollars per day; some superintendents have thirty dollars per working day, besides food.

This may be said to be lavish expenditure. No such thing : the English companies have committed many faults, without doubt, but they are not accountable for the price of labour throughout California. These points are, however, to be taken into account, and this will lead all prudent companies to send out pioneers to secure only the richest ledges or the best river diggings. It may also be needful, if not desirable, to make proof of the quartz ledges in other places than those in which they are opened already.

If there happen to be two or three agents seeking to purchase the same vein, it may be desirable for them to combine, so that there shall be only one bidder, and, if purchased at a fair price, put it up for final purchase afterwards. I name this, as I am cognisant of a quartz ledge not far north of Sonora, for which 20,000 dollars per share was gravely

asked; but as the quartz companies began to decline about that time, the same share was afterwards sold for 1,000 dollars. Another matter, though not exactly pertaining to quartz companies, occurred in a town within less than thirty miles of this hotel. The staff and Cornish miners of one English company, then of another, and afterwards the agents and emissaries of three other companies, made their appearance about the same time. Immediately the butcher of the place, and the washerwoman (both reaping very large profits from the existing prices), declared their intention to raise their prices—the butcher from eighteen cents a pound for beef, on which there was not a shadow of fat, to twenty-five, if not thirty-seven and a half cents, while the washerwoman boldly and at once raised her price from twenty-five cents to fifty cents per piece, or from three dollars to six dollars per dozen; and has, as far as I know, though the company is *non est inventus*, maintained those prices to this day.

How, then, do I see my way so clearly? you will ask. I answer, in the *great abundance* of gold in this region. Although chiefly sought for in gulches, ravines, and creeks, it has been found on the surface rock, or where the rock has been abraded by natural causes, in many places rather by accident than search, or any hope of finding gold in such places; but in such places it will be found in abundance,

when, if ever, labour shall fall to what, in Europe or the States, might be called a reasonable rate.

In the legislative sitting at Sacramento, a bill was brought forward to make labour contracts made in Europe legal or binding; but it was thrown out by a considerable majority; it being considered an infringement of the law and constitution of California, which is (virtually, if not by statute), that no man is bound by an engagement made out of California. Indeed, if this bill had been passed into a law, I much doubt if it could have been enforced, as the defendant, on swearing that he had no means, cannot be compelled to pay, there being no such thing as imprisonment for debt in a country where the sheriff charges from ten to fourteen dollars per week for the food alone of criminal prisoners.

Until the people on the Atlantic, and beyond, comprehend more justly the position of things here, and the nature and position of the gold ledges, but little success can be expected. Something may be hoped from improved amalgamation, and something from the experience acquired by civil engineers, geologists, and other scientific men from the Southern States and from Europe; but not until the men sent out—amongst whom I take pleasure in recognising some highly honourable and very scientific men from nearly every state in the Union, as

well as from the countries of central and southern Europe—have acquired the special knowledge and experience necessary for this new branch of industry. Still, much will be gained from their testimony, and more especially from a careful comparison of their statements, and the grounds upon which they are based. But a company is not, especially at the outset of a series of projects, always the best tribunal to sit in judgment upon a scientific report.

I repeat, that much, very much, needs to be changed in the conception and carrying out of these undertakings; but any doubt as to the existence of gold, in great quantities, for many miles around this spot, is quite out of the question. As to your engaging in these undertakings, at present I can say nothing more than that the gold assuredly exists in this region to a far greater extent than has yet been exposed, and that, when the right man and the right combination of circumstances concur, the present yield from this country will be quadrupled.

A. T.

LETTER XVIII.

PROGRESS.

Quartzburg Tent, Mariposa, November 11th, 1852.

At last there is some talk of business amongst the quartz companies about Mariposa and its neighbourhood, but no actual works have been erected. The Agua Fria Company, respecting which some curious circumstances have transpired, is said to have agreed to pay Messrs. Palmer, Cook, and Co., a moiety of the sum first stipulated for, but on what grounds is not stated. I well knew that the ledge sold to the Agua Fria Company by Palmer, Cook, and Co., had no legal existence. A claim, it is true, was registered in 1850 or 1851, but so loosely that it gave no title whatever. This was neither worked nor proved ; but I have taken specimens from each of the three quartz ledges which intersect Carson's Creek, and in not one have I found a trace of gold. The specimens shown, and upon the faith of which the mine was sold to the Agua Fria Company, appear to have been taken from a variety of places ;

few, if any, from Chiles Ledge, which does not abound in gold, as far as yet proved ; and, with these facts known to them, it does seem, to ordinary capacities, strange that an interest of any kind should have been given to Messrs. Palmer, Cook, and Co., as a consideration for statements not one of which seems to have borne the test of inquiry ; unless, upon the sentiment of Hudibras—

“ The pleasure is as great,
Of being cheated as to cheat.”

Upon no other principle can I see any ground for assigning to Palmer, Cook, and Co., any interest in the company's future earnings.

The West Mariposa are as yet doing little, and the Ave Maria have purchased a ledge in Grass Valley, though I do not hear that location very favourably spoken of by the first settlers.

That there is gold enough in California to purchase all the gold at present existing, whether in the form of plate, coin, or bullion, cannot be doubted by any intelligent man who has examined for himself ; but that it will fall to the share of the English companies as at present organised, and with their present aims, is most unlikely. When a combination of individuals known to each other, as are the adventurers in the Cornish mines, shall be properly organised, proposing to themselves only what is

practicable, I can hardly doubt of success ; at least, if they depute a clear-headed and honourable man as their manager, not restricting him to quartz mining, but giving him full power to apply himself to any other mode which may offer favourable results. One of these would, in all probability, be the extraction of gold from the black iron sand which exists in greater or less quantities in nearly all the rivers, and the exploration of new and untried streams. There are two or three of the largest rivers which have as yet never been worked at all, though it is well known that one, the Gila, possesses auriferous deposits to a very large extent.

The rains have set in very early this year, which has had the effect of greatly impeding, indeed of entirely stopping, most of the creek or river diggings. These will hardly be resumed until April, to any great extent, and most of the miners who have dry or gulch diggings will have to rely upon them. The exportation of gold may therefore be expected to fall off materially for the ensuing months. Still, this will be no indication of a permanent falling off, as it can hardly be doubted that, with the experience gained, and the immense amount of ground laid open, the yield of next year will greatly exceed that of the present.

It must, however, be borne in mind, that it is only to those who will work themselves that success

will belong. for gold is a very subtle substance, and is apt to *disappear* unless very narrowly watched. Unless, then, John Bull, when he comes to California, is prepared to apply his broad shoulders and burly frame to hard and continuous labour, I cannot venture to promise him much success. It will not do to send out a staff of superintendents, clerks, &c., many of whom are foisted into places made for them, and for the duties of which they are most unfit. Only working men—that is, men who are prepared to work, and to work hard too, whenever occasion may arise—should be sent out to this country, where the proverbial smartness of its population leaves little to be gleaned except by a rare combination of talent with industry.

In my next I will advert in detail to some of the less obvious difficulties and hindrances to be met with in quartz mining, in its present state and condition.

A. T.

LETTER XIX.

DIFFICULTIES TO BE ENCOUNTERED.

Mount Ophir, November 1852.

HAVING repeatedly stated, not only my conviction of the existence of vast mineral wealth in this region, but the grounds for my conviction, and having pointed out the errors of the present adventurers, and the difficulties attendant upon their proposed mode of extracting gold from quartz rock, I shall now give some further information as to the difficulties in detail to which the quartz gold seekers are exposed.

On the arrival of the superintendent with his staff and a number of Cornish miners, some stay is usually made at San Francisco by the superintendent, whilst the miners and artificers are forwarded to their destination, where they are left in enforced idleness, whilst the chief is ascertaining as well as he can the exact whereabouts of the quartz rock which has been purchased. — Should he be fortunate enough to have this pointed out to him with suffi-

cient precision, and should he after a time have satisfied himself sufficiently, or as well as he may be able, upon other matters, he will perhaps, after ten days or a fortnight, join his men at their temporary location. But in that fortnight the men have been enlightened as to their rights, or rather, as they deem them, their wrongs. Cornishmen who have preceded them, attached to the earlier companies, and who have taken to river diggings, have been with them, and they have been enlightened as to the state of things around them. They have learnt that able-bodied men, such as those engaged always are, will have no difficulty in obtaining six dollars a day, exclusive of food, and they are taken to diggings where, after a week's work in clearing away the river's bed to a depth, it may be, of ten to sixteen feet, they will see the ledge or bottom rock broad cast with gold, often to the value of 200 to 300 dollars, the produce of three men's labour for a week. This, and the narration of the luck of such and such a person from such a place in Cornwall, all known to them either actually or by repute, has worked an entire change in their feelings and convictions. In place of thinking themselves fortunate in having made what at the time seemed to them an advantageous bargain with the company's agent in England, they begin to look upon themselves as wronged men, as having been induced

to bind themselves for less than half the sum they could earn if free. They further learn that there is not only no law to enforce contracts made either here or at home, but that the whole mining world would at once, and with one mind, oppose any attempts to sustain such contract. You may judge, therefore, of the harmony likely to subsist between these men and their more immediate employers. They are dissatisfied, and with ready means of giving vent to their dissatisfaction to their own great advantage.

Supposing, however, as may be the case, that this feeling is not fully developed, only festering in their minds, the superintendent proceeds to pitch his tent in the neighbourhood of his purchase, if he should have been so fortunate as to have found any trace of gold in the quartz, and to make such preparations as may seem needful ; of these the building of an engine-house, and preparations for the machinery, and the proving of the quartz vein, are the first. And here the troubles of the superintendent will begin. It is almost impossible to find a vein containing any traces of gold in the vicinity of water ; but should this occur, it is almost certain to be in a thinly-wooded country. Now, to the success of quartz mining, exposed as it is to so many drawbacks, it is essential that the works should be erected in the vicinity of a permanent water course ;

a matter of some difficulty, when it is recollected that no rain falls from March till the end of November, and the sun shines during the whole of that time in a cloudless sky, at a temperature in the shade averaging about 90° at noon, and in the sun sometimes as high as 140°. In the meantime, as soon as sufficient capital has been expended to give earnest of future workings, parties who have taken up—*i.e.* who have registered—claims in the vicinity, which can by any means be tortured to give a right to the claim about to be worked (and for this purpose the very loose manner in which the records are made gives great facilities), put forward their claim to the quartz ledge, to the end of being admitted to a share without cost, or with a view of being bought out. Should the adventurers be so fortunate as to escape this danger, or should they be able to compromise upon moderate terms, they will find at a later period (always supposing that the quartz rock should be supposed to be worth working) a collision with the owners of the ledge, should the arrangement be for a lease in place of an absolute purchase; which former course, strange to say, is very frequently adopted, for no other or better reason, that I know of, than to secure, as is thought, a fellow interest and co-operation from parties on the spot. Never was a greater mistake committed; since, apart from the obstruction presented by the cove-

nants of a lease in ordinary cases, the fact is beyond all controversy that, so far from this course securing identity of interest in California, it is directly the reverse. I know some promising works which have been seriously impeded by the owners of the ledge having interest as hotel keepers, store keepers, and provision dealers, directly opposed to the interests of their tenants ; and great difficulty, and in some cases a great expenditure of money and loss of time, has been incurred, before their conflicting interests have been arranged.

This difficulty surmounted, and the others accepted, the works proceed ; the machinery is brought over roads, in some places requiring eighteen yoke of oxen, and in some places over gullies requiring to be bridged for this partiular service ; and after much hindrance and many delays, peculiar to this and to all new countries, the machinery is erected. In the mean time the miners have extracted a mass of ore which has been calcined and broken ready for the machinery, without, however, finding more than a few traces of gold, or perhaps a stray pocket of rather better promise. With this the stamps are fed, and the best amalgamator, or that considered the best at the time, is used to extract the ore ; the produce or result being, as it has ever yet been, utterly disproportionate to the cost. An explanation is sought, either by attributing it to the defect-

ive quality of the quicksilver, or to the presence of grease. These defects, if they existed, having been obviated, the same or similar results are produced ; and then it is suspected that the mineral cohesion of the gold is not broken down, or that the gold is so fine as to float on the surface of the water ; the operation of stamping being to flatten the gold, which is soft, and to pulverise the quartz, which is hard. It is then determined to try another amalgamator, and this and similar proceedings are carried on until the proprietors, who are called on to pay instead of receiving weekly moneys, inquire into and stop the concern. This is the history of scores of quartz works in this and the Northern district, in which the Americans have lost millions, but the failures of which are concealed or referred to removable causes, under the hope of selling, as they recently have done, some of their abandoned works to Europeans, who have purchased, at high prices, establishments which I have known offered for little more than the value of the machinery alone. This is the history of quartz mining, but such is the infatuation of the pursuit, that there are yet to be found Americans fresh from the States who are willing to adventure in *new and more promising* undertakings.

I have before adverted to the best and most prudent mode of quartz mining, by which all the good

results would be obtained at a fiftieth the expense it now costs ; and I again protest against the conclusion that there is no gold in California, because it has not hitherto been sought after in a proper manner. Let a capitalist or a competent agent only come here with a very moderate capital (a tithe of the money subscribed to buy the Agua Fria Mine) ; let him use his own eyes, see, hear, examine, and compare, and then judge for himself ; and I venture to promise him an ample profit upon a limited outlay. But if capitalists with you are dazzled by large amounts, and will still follow in the beaten track of failure, now amused with this invention, now with that great discovery, they will greatly benefit both this country and Australia by their outlay ; but as to their getting anything in return, that is past hoping for. There is, however, ample scope for men of sense with small, or rather moderate, capital ; and when more of the companies, at present looking for the rich locations promised them on this side, are withdrawn, leaving their plant behind them, there will be still greater scope for those who, more patient and self-relying, have proceeded upon the only safe course—that of induction. Materials upon which to form a judgment are accumulating daily ; and I doubt not that mining in California will in a very few years become a science as well known and as clearly defined as geology is

at present. I again repeat, let the proper men come, and then success is sure.

Before I conclude, I may just mention that the Anglo-Franco Company is located here in the midst of a desert, the wood being burnt up for more than a mile all round, and pay at least nine dollars a cord for wood, much of which is small trees, and is therefore as dear as large wood just dried at fifteen dollars a cord. To judge from what I see and hear, their expenses are enormous.

The accounts from the Melbourne district of Australia are drawing off some of our most sanguine adventurers, notwithstanding the great drawback arising from the want of water in that district for the greater part of the year. I have reason to believe that, rich and boundless as that field is, the wages will not be so high as here ; and that is the best test of *permanent* value. I shall write again by next mail.

A. T.

LETTER XX.

WHAT WILL PAY.

Quartzburg, November 27th, 1852.

IN my preceding letters I have sketched, somewhat briefly, the causes of the failures in the search after gold, as it is to be found in quartz—a search natural enough for the seekers, but the folly of which must be evident to every scientific man after a month's sojourn in either north, central, or south California. That gold is only, or rather more abundantly, found where quartz ledges abound, or where the quartz is spread broad-cast over the hills as thick as boulders in the vineyards of Chateau Neuf, in Provence, which appear one vast bed of shingle, is undoubtedly true; and it is also true that large masses of gold are found intermingled with quartz, one of which was produced from a digging at Mariposa, about the size of a child's head, and weighing thirty-two pounds, but from its size was judged to contain at least seven pounds of quartz; and that gold in visible spots is seen on isolated pieces of quartz; but this

only makes it the more evident that the conditions of quartz rock and the gold at one time mixed with or having some relation with quartz, have undergone a mighty change. That gold is now nowhere found in quartz in such proportions as the isolated specimens found in the beds of rivers would lead an unthinking observer to conclude must be the case, necessitates the conviction that the gold now found scattered over the primary rocks, or found in the beds of streams, came there from some of these convulsions, which, during countless ages, rent the country by subterranean fires and explosions, and has been distributed by the action of currents of water, the more recent action of which is palpable in the present form of the hills, the valleys, and the water courses. This must be particularly evident to those who have visited the district above Sonora, this side of Calaveras, the country on the dividing range between Colcrow and the Merced, and the waste of hills covered with quartz and chaparral, lying to the left of the road from Agua Fria and Ophir. The evidence in these two latter districts goes very far to support the view I have before suggested in these letters, that the quartz, at sometime antecedent to our era, was projected far above the level of the surrounding earth, sea, or rock, and that by some agency of fire or water, the gold which (contrary to the opinion of the manager of the

Nouveau Monde Company) I hold to have been richer at and above the surface than below, became disintegrated from its matrix, or nest, and is found in coarse lumps around, and in small or fine gold in the beds of the gullies, ravines, and creeks, in the vicinity. This much, at all events, is quite clear—that it is as rational to look for the £20,000 prize in a lottery, in which this is the highest prize, as to look for a paying quartz mine because you have recorded a ledge, or a profit from the working machine because you hold a share in a quartz company; and yet, such is the tenacity of an idea, so unwilling are men to relinquish what they have come ten thousand miles to achieve, that I fully expect not one in a dozen of the managers, or others to whom these works are confided, will advise the principals of the real state of the case. The difficulties are many; profit absolute, after all expenses are fairly brought forward and the concern debited with interest upon all outfit and outlay, both at home and California, very doubtful.

The conduct of speculators on your side of the water has led to the conclusion here that wealth is so superabundant in England that you only want a decent excuse to get rid of it; and, but for the extraordinary find of gold in Victoria, and the certainty felt here that quartz mining as hitherto practised must be a failure, you would have deputa-

tions from every mining district of most disinterested owners of ledges full of gold, offering them at prices which, compared with their asserted value, would only appear another name for a gift. Some of the prospectuses sent out here from New York, and simultaneously to London, are calculated to excite surprise by their more than hardihood. In one case Golden Mountain is made to give out its treasures to an English Company, when to my knowledge Gold Hill—its true name—has no quartz ledge which will pay one-half the expense attendant on its working, as I inspected this hill very minutely on my arrival here, led to this inspection by the name of Gold Hill (I had not then so much experience in the grandiloquence of California), and by its proximity to several rich ravines and other water courses. Whatever gold this hill, or rather its ledge, might have contained, I will avouch that there is no gold in quartz worth working now.

There is a splendid country south-west, or rather west, of this, which has been but little worked and in no place exhausted. I am satisfied that a company, with a capital of not more than £10,000, placed in the hands of one responsible agent, choosing his own workmen in the country, and having a remuneration proportionate to his responsibility, labour, anxiety, and the trust reposed in him, would be sure to succeed. But, to carry out this project

to a successful result, it would be needful that as few persons as possible should contribute, as both unity of purpose and unity in execution are essential to success. If Californian quartz contained ten times the gold that it does, the present constitution of the companies, and their present organisation, would defeat the objects they seek to obtain, in five cases out of six.

Several of the more active minded of our quartzists are now turning their attention to improved modes of washing the gold in the beds of creeks, and in several instances with great results. Thus, in two cases which I am well acquainted with, 14,000 dollars have been obtained by the labour of six men in twelve days, and in an other upwards of 11,000 dollars, by the labour of ten men in six days. In one place, about mid-way between these two washings, I obtained by panning 3 dollars in about six hours, which would give at least 50 dollars for three men, with a "long tom," for which there is plenty of water all the year round. I am assured—indeed, have an assured conviction—that, by the method of washing in use in some parts of the Western (eastern to you in England) Ocean, the placer of which I speak might be made to yield 20 dollars per man per day, for a score of men, for perhaps a dozen years, as there are many score millions of pans of dirt in this deposit. This is the

work which will yield the most and the most steadily—viz., the application of improved modes of washing—modes at once more simple, economical, and complete, than those in use, and by which river courses, which have been worked over three or four times, can be again worked at a profit, and by which, when applied to virgin placers, a very large return is, in nine cases out of ten, sure to be realised. It is evident that prudence requires reserve in matters of this nature, more especially when the preliminary prospectings are the results of individual self-reliance, and where the results have often been the greatest where public opinion, or rather public guesses, have been the most opposed to the trial; and that any further indication of such localities would amount to a sacrifice of future advantage when success in lesser undertakings shall have furnished more ample means; but, as an earnest of the truth of these views, I am quite willing to give a moiety of the larger work to which I have adverted to a man of capital, who will furnish the moderate capital necessary to develop the bank effectually, such capital in no case exceeding £5,000, and probably not £2,000, before the receipts exceed the expenses. In doing this, however, I should act worse than suicidally to allow of any interference with my proceedings, as it is through such interference that some really promising works have been ruined.

Capital will, as it ever has, have the largest share, but this being preliminary to larger, or rather other works, on the *métairie* system, would not be grudged by any intelligent man, who, by so doing, secures an intelligent and affluent coadjutor.

I shall be very busy in forming a little canal, to bring water to a bar, for the next month, but will, as you request me, find time to write every post.

A. T.

LETTER XXI.

ADVANTAGES OF CALIFORNIA.

Miéville's Rancho, December, 1852.

I HAVE been through the whole of the valley to the sources of the Merced, and have not seen any traces of civilised man in the whole journey, until my arrival at this place. The rains have entirely ceased, and the purity and dryness of the atmosphere is such, that already the earth seems parched, although, at this season, the sun is at its greatest obliquity. My journey has been through a singularly wild and, in many places, barren country ; but everywhere there are traces of gold, to be worked when the more frequented placers shall become less productive. At present the fear of the Indians, the distance from any stores, and the paucity of water, all tend to hinder, or rather to postpone, the period of its development ; but I have satisfied myself, both from my own trials and what I have learned from Miéville, that this part, when properly explored, will be found second to none. I have seen here gold in

quartz above the surface—and that, too, in numerous places—and am inclined to the conclusion that the ledges in this district are worth further trial. Still, I have not seen, either here or elsewhere, anything like a continuous vein, or even a continued series of deposits ; and am more and more satisfied, by a careful comparison of all the facts yet known, that gold, though it may be combined with other metals which are found in continuous veins, and is, certainly, *diffused* in quartz, is not, and will not, for the present—at least, under present combinations—pay.

I fell in with an Englishman, who, with his newly-married Mexican wife and her sister, are settled here. He had been a merchant in London, and having met with reverses, decided at once to throw himself into the new pursuit, without exposing himself to the certain ruin and demoralisation which ever attend a state of dependence. He had seen, he told me, how men who live, as it were, on the borders of destitution, become enfeebled in body as well as hopeless in mind, and that every year so spent is equal in its demoralisation—physical as well as moral—to ten years of life with regular or continuous employment. He had therefore, at the age of fifty, left a country in which his future was dark and doubtful, and had, after many difficulties, reached this spot, which, from its re-

moteness from any settlement, had a charm for him that a more settled neighbourhood failed to present. His wife—graceful, like all the Mexican ladies—was more gentle than is usual ; for though the females of South America seldom permit themselves the use of violent language or gesture, yet their self respect and exigence is somewhat conspicuous. These ladies—the elder especially—impressed me very favourably, and I could have been well content to have stayed some time in their society ; but my claim on the guleh was exposed to danger in case of rain, and I had no choice but to return without delay.

If I had to determine the locale of the education to be given to the daughters of England, it should not be France, but Spain ; as there is a charm in the natural grace of Spanish women to be found in no other people. Were it possible to engraft this grace, so peculiar to the Spanish race, upon the pure, gentle, and more equal mind and affectionate nature of our women, the result would leave nothing to desire. Not that I would subscribe to the heresy that the English or American women are *ungraceful*—they are only less graceful than their sisters under warmer skies. I do not doubt but that climate has much to do with this, as you see the women in the South of France are more graceful than those of the North, as also are the Spaniards on the shores

of the Mediterranean, when compared with those of the provinces which skirt the Bay of Biscay. This indescribable, though unmistakeable, superiority in the Iberian race, is not to be confounded with the artificial, glacial *manner* which passes for it in Northern Europe; it is, in nearly every case, an outward and visible sign of an inward and spiritual grace, and in this consists its inestimable value. The English and French women here are so few and so unhappy, always yearning after their comforts and what they call their gaieties, that they present a miserable contrast. Indeed, I have not seen one European woman here, who is not miserable herself, or the cause of misery to others. Not so the Americans, of whom there are a few at the mines. Plain, neat and simple, in their dress and requirements, they seem neither to enjoy or to suffer, and are, far and away, better and more suitable mates than European women; the latter being, apparently, unable wholly to divest themselves of that slavery to manner, which is the besetting sin in Europeans, and which, more than anything else, retards their progress, as compared with the Americans. There is no end to their stupid wonder, and still more stupid contempt, for what is, to them, new or strange.

In this country the courts are held in a large room over an hotel, on two sides of which room are bunks,

some empty and some tenanted by the lazy, the drunken, or the sickly. It is not an unfrequent occurrence to see a man turn out of his lair half naked, and dress himself within a yard of the judge. The jury, partly consisting of unshaved miners in their working dress—I once saw a man on the jury-form without other dress than his trowsers and shoes—are usually smoking, as are also the counsel or lawyers, for they are both in one, and merely withdraw their cigars when addressing the court. The finding of the jury likewise includes, when guilty, the sentence, whether confined to a fine, three years' imprisonment, or death. One of the judges of this court is at the same time a justice of the peace, sign painter, postmaster, miner, engineer, carpenter, doctor, boarding-house keeper, and assistant surveyor of the district—having thus ten independent functions, all of which he fills with credit to himself and advantage to the community. You will often find a man on the bench one year, and in the middle of a river the next. Indeed, men frequently leave the cradle and the "long tom" for the school-room, the bar, or a local office, and as frequently return to the only sure source of wealth—the diggings. In digging, it is the moral qualities, more even than strength or familiarity with mining processes, that lead to and secure wealth. These qualities also lead to a better application of the gold,

when acquired, as it is almost invariably found that the investments of educated and sensible men are best chosen and most productive. It may seem easy to invest when the interest of money is thirty-six per cent., with good security; but it is chiefly in the choice of security that the educated men have the advantage.

There is likewise here a law which grants to females the same rights to property as men; and a man's wife, sister, or daughter has therefore the same rights as himself. They can record claims to the extent of a hundred and sixty acres of land, claims for quartz rock, or placer diggings. The wife's fortune, or money acquired by her own separate exertions after marriage, is her own individual property, and so highly do the laws of this state favour women, that, in the event of failure, the sum of five thousand dollars is reserved out of the estate, under the title of household exemption; so that, if a trader becomes bankrupt or insolvent, the state sets aside five thousand dollars for his wife and family; a sum which, at the current rate of interest, will produce eighteen hundred dollars, or £360, a year—quite enough, with a garden and a few fowls, to support a family in idleness, if such a thing were possible or desirable when gold is thickly strewn around, requiring only moderate labour for its extraction.

Another of the peculiar advantages of this country

is that it is virtually free from taxes upon industry, the only tax being a poll tax of twelve shillings on every inhabitant. I am satisfied that three miners living and working together, and having a garden of a quarter of an acre, could live, and live well, on forty-five shillings a week, or fifteen shillings each. The price of clothes is merely nominal, as a man's whole outlay for hats, jackets, trowsers, and shoes, need not exceed four pounds a year. Fuel may always be had for the fetching, and house rent in the mines is a thing unknown. Food is rapidly falling in price, and is much lower in proportion than the decline in the production of gold.

I have met with a few discontented and unhappy spirits here, whose antecedents have interfered with a right appreciation of this country and climate; but they are, without any exception, from the old country, or from "ould Ireland." It is the peculiar curse of all old artificial societies, that they not only cramp the faculties within artificial and unnatural boundaries, but they render a simple and natural life painful. This is not only the case with the idle and the unthinking, but I have met with instances where very superior men have at first found difficulty in unassociating what they have always associated. There is a man here, of a really kindly and earnest mind, free from mental prejudice, who is yet a prey to the habits of Europe, though he has

been here a fortnight. It was only three days ago that he discovered, and told me as a discovery, that the air of this country agreed with him, and that he thought this a finer climate than England; and when, for an experiment, I took up the cudgels for the superior and temperate climate of the old country, he warmly contradicted me, and, in his earnestness to do justice to the superiority of this climate, convinced himself of the inferiority of all wet countries as ministering to physical enjoyment. It is thus that men teach themselves, and it seems that only through opposition does the mind gain strength, for in this way only is it exercised and true judgment matured. This gentleman—for we are all gentlemen here—reminded me much of my old and valued friend P—, although he is not so far advanced in the knowledge of valuable truths. There is, however, this great difference between this man and P—; viz., that whilst he chose the right path on wrong grounds, I fear that P— would not take the right path on right grounds. In other words, he would let “I dare not wait upon I would,” and although he would admit and *feel* that this country was the right one for a man of his rare and varied qualities, yet he would not act in accordance with his convictions. This would be the place for him either to realise his own convictions, or to take a high position for general usefulness.

A. T.

LETTER XXII.

WHY QUARTZ COMPANIES ARE FAILURES.

Mariposa, February, 1853.

THE rains have stopped the river diggings, and sent all the miners to the gulches and ravines, where many of them have secured fair claims, and are likely for the most part to have water till the creeks and rivers have subsided.

The storms have also affected many of the crushing works, by interfering with their supply of wood, and in many instances by flooding the works themselves, and causing a suspension of operations. Very little change has taken place in the position of these undertakings; not one rich *continuous* ledge has yet been found, and the rich *fragmentary* deposits occasionally met with are productive of unmitigated evil, by raising hopes destined always to be disappointed. In my late inspection I carefully viewed the numerous ledges extending from Guadalupe, by way of the Chuchilla and Maxwell Creek, to Sonora on the one side, and from Sonora, by

way of the Merced, Quartzburg, Mount Ophir, and Agua Fria, on the other ; and though several are opened many feet, and others have drift way and adits proving the ledge at various depths, I have not found one with a continuous lode—not one which I would work, if guaranteed against a loss of twenty per cent.

I think I have explained, in previous letters, the great, the fatal drawback to the success of quartz mining is not alone, or *chiefly*, in the price of labour, difficulty and expense of obtaining fuel, imperfection of the machinery, position of the ledge as regards water, and expensive carriage (for all these evils could or might be mitigated in many instances), but in the fatal paucity of the gold, even in those lodes considered the most PROMISING ; and this is a defect which time alone can demonstrate more completely, and one for which there is *no remedy whatever*—which *cannot* be *amended*. How else is it that, with every motive, every incentive, to make returns, not one quartz work has yet made a dividend ? It is said that one or two public companies are about to make dividends. Do not believe it; for, as no dividends can fairly be made out of capital, or in any way be cooked or made pleasant, as has been done in other works, without causing the attention of the whole mining world to their condition, an exposure would be inevitable. I have come to

this painful conclusion (painful as you may well think to me, whose belief in the quartz ledges as the matrix of gold has ended so unsatisfactorily), after an examination of more than three hundred ledges, in the richest and most productive part of California, in not one of which have I found a continuous vein, or even traces which could justify the hope that such a course is probable in any vein. The fragmentary deposits of gold in the quartz are nearly always in the inner and under side of the ledge, and in no case go through the ledge, but are confined to what appears an accidental and non-continuous deposit. Whence, then, come the rich specimens of many pounds' weight, which have been so much blazoned? Whence these nuggets? How formed in the first instance I know not; but I affirm, deliberately and decidedly, that they form no part of the quartz ledges as they exist at present. They have been found in detached pieces on the surface or detritus of quartz ledges, in specimens varying from four cents to two dollars in the pound, and in rich masses deposited on the primary rock, sometimes in near approximation to a quartz ledge, sometimes at a great distance from any ledge, and in the bottoms of river courses and streams, but *never* as part of regular courses or lodes. *At present*, therefore, the application of capital to quartz mining is the most hopeless of all specula-

tions, as regards the existence of the gold itself in paying quantities.

There are placers within one mile of the place where I am now sitting, which, if worked thoroughly and practically, would produce more than 100,000 dollars on the average, with a first outlay of less than 5,000 dollars each. Yet these self-evident and *known* productive diggings have been overlooked, whilst quartz mining, which is and which must long be unproductive, has attracted the entire attention of the wise men of the East.

I have been told, by men fresh from England, that it is easier to raise a sum of £100,000 than only £10,000; and though this is, perhaps, capable of some explanation, I cannot see what has led to the neglect of productive and known profitable diggings, and to the prosecution of undertakings all of which have failed, and all of which must have failed from the very nature of things.

This district—*i. e.*, Agua Fria and Mariposa—has produced over 15,000,000 dollars within the last four years from the streams alone, with a profit, over and above food, implements, and clothing, of not less than 12,000,000 dollars; whilst, if a return could be procured of the loss in quartz, it would probably be shown to be 12,000,000 dollars out of an actual expenditure of 15,000,000 dollars,

including all the private companies formed previous to the Anglo mania of 1851-2-3. These proportions, to some extent *necessarily* conjectural, are and will hereafter be found approximative to the fact, that the adventurers in placers have realised a profit of 400 per cent. beyond their expenditure, whilst the adventurers in quartz will be more fortunate than I expect if they succeed in rescuing 20 per cent. out of the wreck of their subscribed capital. It must be borne in mind that the failure this time is likely to be *total* and *complete*. The failure of the speculations entered into by the native or naturalised Californians, and which attached no stigma to the original adventurers—who, finding gold in quartz, expected all quartz to produce gold—was followed by the foray of English companies, with large capital, just in time to relieve the original adventurers from serious loss; and this has been effected, as in the case of the *Nouveau Monde*, upon conditions which have startled thoughtful and reflective Americans. In this case, and in some others which have come to my knowledge, terms have been agreed to by the English companies for the purchase of quartz works—shut up and abandoned as unproductive, and for want of means and inclination to make another trial—at prices greatly exceeding their value, if at full work, and producing a large profit. It may be said that

this is the fault of the superintendents, who, having been sent out to work lodes which they could not find, saddled with an expensive staff which they could neither feed, pay, nor disband, were unwilling to return without making trial of the country. To this I reply that the fault is chiefly, if not wholly, with those who recklessly made contracts with adventurers and sharpers—exposed their superintendents to painful responsibility, and to the influence of representations which, under ordinary circumstances, they would have escaped.

The only course for the shareholders in these quartz companies is to get clear of their liabilities, and to divide the assets that remain—if, indeed, any should remain. I speak of California, of which I have a full and ample knowledge; but I cannot speak of Australia so decidedly, though I have reason to conclude that the general character of the quartz will be found similar to that in California, and that the companies formed in London for the working of quartz rock are not unlikely to fall under the same categories as those in this district.

Although I see no hope at present of any successful result from quartz crushing, you must not conclude that this country is exhausted. I believe it to be *inexhaustible*, and that the application of very moderate capital will eventuate in great returns. To any right and *even-minded* man who

shall come here, and who shall, whether as principal or agent, devote his whole time to the business, I could almost guarantee great *or* continued success. With a sum, in no case more than £1,000 for a single operation, any man can on an average secure 3,000 dollars yearly ; whilst, probably, before he has expended a half or a quarter of the money, he may obtain gold to the extent of the full sum he adventures. It is not money so much as the qualities which ensure success that is needed ; and if such men, with the necessary conditions, arrive here, some scores may find diggings which, *in any case*, will produce an ample competence.

I pass frequently by a large mass of earth exceeding 100,000 square yards, not one yard of which, as far as I have prospected, yields less than fifty cents to the yard, and at the bottom considerably more—calculated and likely to produce, by the new method of applying water, ten dollars per man per diem, affording work for years for a large body of men, and not improbably opening out new and unsuspected deposits. There are other works quite as good, possibly some better ; and to these investments, if carried out either by intelligent principals, or by trusty and trusted agents—men who have a due sense of responsibility, but who are yet firm—the English may safely give their attention and some portion of their capital. If the gold-bearing

regions of California are developed by prudent, self-relying men—if they have ample but not exorbitant means, and if they are freed from anxieties and control—my life for it, the produce of California will greatly exceed all that has yet been extracted. To this end there must be unity of mind, oneness of purpose, and perseverance; for to hope for success from divided counsels and vacillation in action is to look for an impossibility.

Send us money *in moderation*; or, still better, prudent, sober men, with moderate means—men who can either act alone, or, if more advantageous, in conjunction with others—and their success is quite certain.

I should like to work a very promising flat in the woods above the Indian Reservation, which I have reason to think will prove remunerative. I took out one pan of dirt about two feet below the sod, when I was in that neighbourhood in the summer, and it yielded at that depth more than ten cents; so that, even if the ledge should prove unattainable by reason of its depth, this will prove a pretty work for the wet season. Still, I hold that one trial never proves a placer, as the best may give fifteen or five cents. At present I take it as ten cents to the pan, or twenty cents to the bucket, which is equal to twenty dollars a day, whilst the water holds. In a flat nearly like this, and in a

country not generally so rich, I have seen fifty, seventy, and one hundred dollars a day, to one "long tom" for many weeks together. Send only good labourers, with moderate means, and without undue and exaggerated expectations, and they will succeed to their hearts' content.

The country about this is quiet, the climate is really delicious, the scenery exquisitely beautiful, and the air pure and salubrious. If man is not his own enemy, he need fear none other in this splendid and sunny land, in which I wish more of your poor could obtain locations.

A. T.

LETTER XXIII.

CONCLUSION.

Frenchman's Bar, March, 1853.

As I shall not write again for some time, I am desirous to give you, in this letter, the conclusions to which I have arrived, which have been forced upon me as the results of my own researches, and the inquiries I have made of the most experienced and well-judging of those with whom I have associated. In the first place, as to the prospects presented by the quartz ledges, I regret to say that I entertain not the least hope that they will or can be profitable; certainly not, unless some method can be devised which shall either greatly lessen the expense, or apply a better mode to the reduction of the rock. As at present advised, I incline to think it doubtful whether one out of a hundred would pay, even if the expenses were reduced by 15 per cent., and an additional 15 per cent. upon the present yield could be obtained. Judging from what I see going on around me, as well as from the tone of the cor-

respondence from England, you will find it difficult to believe that *all* the quartz works which I have seen are utterly unproductive, and that *all* the representations made in London as to the richness of quartz ledges are utterly untrue. In nearly every instance into which I have examined I found no gold whatever visible to the eye—the flour of gold, existing perhaps to the extent of one cent or one cent and a half per pound, being nearly all lost in the crushing. This arises from the circumstance that these invisible particles either remain attached to the granular quartz with which they are in chemical union, and thus incapable of being taken up by the mercury, or that, when mechanically combined, they are pressed flat, and thus float off on the water.

You will ask, “Is it, can it be, true that all these representations are false, these companies all victims of credulity or delusion, and the whole scientific world utterly deceived?” To this I can only reply, that whoever else may be deceived, I am not; I came, as you know, with the purpose of judging for myself from facts, and on the spot; and I again affirm, deliberately and without hesitation, that the gold in quartz will not pay the expenses of any one of the proprietary companies worked by hired labour at or near its *present* cost. Even whilst I write, I learn that the quartz on the ledge above Mariposa (the deposits on the slope below which,

whether in the soil, in the gulches, or in the creeks, have been so rich), which was worked by the owners themselves in a mill, for which they paid only a moderate royalty, has been given up as a losing concern. This I consider a fair trial, as there was already a considerable amount of quartz raised; the carriage was easy, wood and water plentiful, no outlay for machinery, and the work done by the owners themselves, who had thus the most direct interest in adopting the best modes of dressing, and the most economical processes. If, therefore, this work, enjoying so high a reputation, the crushing and reduction of the ores in which were conducted with great economy—with an economy and under circumstances which can hardly again occur—should have proved an utter failure, I ask what hope is there, can there be, that other works, prosecuted under conditions in every respect far less favourable, can have any chance? You will say that the Anglo-Franco Company, having many thousands at their command, under scientific direction, and with a world-wide experience, have advantages in which local companies are deficient. To this I demur; I think it likely that that the parties to this—the Mariposa—undertaking had nearly all the external conditions of success. They have one of the best ledges, were at once practical and scientific men, and had amongst them men skilled in the manipu-

lation of ores both in Mexico and Georgia, as well as four years' experience in California. In the other company you have men familiar with operations in the south, where gold is only found intermixed with other substances in the copper and silver lodes, and never interspersed in infinitesimal particles, as it is in quartz.

Leaving apart what is *said* in England and elsewhere, I have seen and judged for myself, that as there is no royal road to knowledge, so there is no similar way to riches, and that whatever success shall attend the search after gold in quartz will be attained by the use of the raster, as it is called here, or, more correctly, the Mexican arrastre. This I have described to be a primitive mode of crushing, by drawing two heavy stones over a floor on which the quartz has been placed, and into which a small stream of water is conducted. Into this floor or enclosed space quicksilver is put, and a constant trituration goes on. By this rude but really effective proceeding more gold is obtained and less lost than by any other process; and, by the labour of a mule and a boy, eight dollars a day is not unfrequently obtained from less than a hundredweight of quartz. The winning of this quartz, selecting the richest portion, calcining, and breaking, will, together with cutting and carrying wood for fires, fully occupy one man, so that little more than wages is obtained.

This amount, however, can only be obtained from very good ledges, favourably placed as regards wood and water ; so that but few ledges will answer. I am, further, more and more inclined to think that the advantages to be obtained by setting up many rasters in one place, on account of the economy always resulting from larger combinations, would have countervailing drawbacks to some extent ; but this is the only way to obtain gold without much loss, and would serve to prove the ledge which, if rich, can, when its riches are ascertained, still be submitted to such future improvement in machinery and amalgamation as shall, after repeated trials, prove advantageous.

The failure of the existing quartz works is attributable to the small quantity of gold diffused in quartz below the surface, and to the blind presumption of hope in opposition to all known facts. What is pre-eminently singular, however, is that whilst the good people in Europe have thus been blindly throwing away their money in a pursuit which must be without result as at present followed, there should be abundance of gold strewn on the soil, as it were—that is, on the beds of rivers, gulches and ravines, as well as on the primary rock—in nearly every point of this district. It is to the search after the known and attainable, and not to the difficult and obscure, that practical men should

direct their attention, as in this pursuit alone will success reward the lesser toil and expenditure. Already has a distinguished geologist, familiar with the subject of which he treats, stated why it is that gold washing, or the abstraction of golden fragments from the drift, is much more profitable than the crushing of quartz, and his opinion that auriferous quartz is richest at or near the surface, and becomes poorer as it goes deeper. Had this gentleman visited the quartz in middle and southern California, he would have qualified this opinion by saying at, and not have also said near, the surface.

To stream washing, then, chiefly, and to dry diggings on fit occasions, should the attention of the miner, with or without money, be wholly directed. To the man of capital it offers manifold opportunities and advantages, and to the moneyless man a sure and unfailing resource, if pursued under suitable conditions, and with the restraints upon over-exertion, exposure, irregular habits and excess, without which permanent success is impossible.

Suppose the miner to have arrived at the diggings, and to have learnt how to handle a pickaxe, a crow-bar and a shovel, and, further, to know when and how to place a tom; he will do well to join two others to work a claim in a creek, where the water is low. In any case he may look to get his board and a dollar a day, since for less than this his

partners will not persevere in the work; so that he will, at once, be learning a most valuable trade, and receiving, instead of paying, an apprentice fee. Having thus obtained experience, he will either join a party in whom he feels confidence, or he will do well to prospect for a week, thus acquiring knowledge and experience where only it can be learnt—namely, he will dig for it. Having thus acquired some familiarity with his pursuit, he should select the inner side of a curve in the creek, if such place has not yet been proved within two years, or he will select a flat or bar, and after making a tail race or sluice to some distance below his bar, to unwater his claim down to the bottom rock, he will proceed to work either alone or with hired labour. I advise the first, seeing that in any case he will get his board, and, in all probability, a very much larger remuneration. In working alone with a long tom, some additional cost is incurred, as compared with working with a company of three; but there are many reasons why a new comer should prefer working alone, as soon as he has learnt the use of his tools. Seeing the difficulty of picking, shovelling and washing, he will inevitably turn his attention to some plan of making the water do the work of human labour, and thus double, and, in some points, treble the amount of dirt heretofore washed in a day.

As he may, probably, fix upon a location at a distance from a store or boarding house, he will do well to take his gold to the store every Sunday, getting a receipt for the surplus, after paying for his provisions; and when the amount reaches 200 dollars, he will be able to invest it, with good security, at 36 per cent., or 3 per cent., per month. As his experience increases he will probably be sorely tempted to leave his claim for some mode of life less laborious, or which seems to admit of more relaxation. Before doing this, however, I should recommend him to inquire if any one of the idlers here was ever known to do well. In the work in which he is engaged he will find that nature herself has done much of the work, and by imitating her processes he will be able yet more to simplify and render easy the extraction of the gold from the drift and the ledges upon which it rests. You may receive this from me as a great fact—that in California, every man who brings to the work the necessary conditions of health, perseverance, sobriety, and untiring energy, is sure to succeed. To succeed in California—in this delightful climate, in which every faculty of the mind and body appears harmonised, and in which every sense is gratified—is success indeed. The only thing that a man would seem to lack is society, and that, to a man always occupied, who has any resources within himself, is little felt.

I am asked, is there no danger of the rich placers being worked out ; and if so, what is the probability of finding others ? To this I can only reply that, so far from the rich placers giving out, the richest in this neighbourhood—that of the Mariposa—though worked over and over again, has produced more gold the last year than at any former period. In some cases, and to some extent, this is due to the washers having gone to the bottom bed ; and in more it is owing to fresh deposits having been made of drift gold by the rains of last year. But suppose, for the sake of argument, that it was no longer very profitable to work the streams, notoriously rich when first discovered, by present processes, there are resources, whenever there shall be the necessity, for combinations to work the old streams to their foundations, at a cost of one-third of that attending the earlier processes. Say that years hence these placers are exhausted, there are thousands of miles eastward which, by reason of their distance from stores and proximity to Indians, have never been prospected ; though it is known, to those who have joined parties in pursuit of Indian depredators, that the whole country to and on the sides of the Sierra is auriferous. Talk of lack of gold in California ! As well speculate on the absence of water in the Pacific. Why, by the time there is even a partial falling off in the yield

of gold, it will pay to work the hill sides in nearly every part of the known auriferous soil.

After the cruel frauds practised on this side, on parties only too willing to be deceived on the other, I do not wonder at your inquiries as to the grounds on which I rest my assurance of the unlimited extent of the auriferous deposits. It is so entirely the interest of the gold digger to keep his gains secret, that in every case where it is possible they are concealed. I have known men say to rowdies and strange prospectors, that they were getting less than five dollars a day, when one of their number will state privately that on such a day they took out thirty-five dollars, and on another ninety-five dollars. In one case three men who had been at work on the Merced had such extraordinary success, and in a place believed to be of doubtful character, that they resorted to the most extraordinary proceedings to conceal their success. If anyone approached towards the evening, when it is the custom to pan out, and showed a disposition to see what they had got, they would keep on working till it was dark; and if asked if they did not pan out, would say that they got so little, that they did not lose time in panning out every day. Fearing, lest the gold left in the ripple-box should be taken or even proved, they have watched in turns, to see that no one came to their claim at night. These

men are said to have made 13,000 dollars—but it is thought that their gains greatly exceeded that amount—in three months, or at the rate of £3,500 each per annum. Another company of five, working on the Mariposa creek, were always talking of leaving, and complaining that, after having incurred some outlay, they had not made more than wages, when a robbery of some gold hidden in the ground inside their tent led to the discovery that each man had made more than 2,000 dollars, beyond board and a very ample allowance for whiskey. As to the fear that gold will be depreciated in value, that is an idle fear, and cannot take place till gold shall become ten times more plentiful than silver, which does not seem very likely to be the case in our generation or the next. It may be said that all other articles decline in value as the production increases; but that is not a necessary sequence, but a condition, seeing that the commodity only enters into increased consumption as a consequence of its being lessened in price. Besides gold, as produced here, is not a manufacture, but is the measure for value, both for manufactures and productions. Why, to judge by what I have seen in Europe as well as America, North and South, a production equal to 250,000,000 dollars annually, so far from leading to a glut of gold, would only stimulate production, and, as a necessary consequence, lead to the intro-

duction of gold into the arts and manufactures to an extent of which we can at present form no conception. It will take at least one hundred millions sterling to replace the paper money of Europe and the States, and as much more to supply the daily increasing demands of commerce. Then there is loss, and the wear and tear of a circulation wholly of gold, which will in no case be less than eight millions, and a probability of an equal or larger amount used in the arts or for objects of luxury.

Whether or not the gold so obtained shall be a blessing or a curse to the world, is quite another matter. I incline to think that it will tend to elevate labour in both hemispheres, and to depress proportionally the rich and the unproductive. The ingenious device to keep up a rich class in England and Germany, has broken down by its own weight, and I prophesy that in another generation—nay, perhaps within a lustrum—the very parties for whose benefit the law of primogeniture and entail was made, will pray to be relieved from its fetters, if the increasing intelligence and more active power of the industrious classes shall not lead to its repeal at an earlier period.

Having, as I believe, communicated to you the facts as to quartz mining, as they exist in this region, apart from hopes and wishes—having placed before your eyes the certainty of great, in very many

cases, enormous reward, attendant upon gold washing, for which, even as at present imperfectly practised, there is an unlimited field open, and space for many thousands of adventurers, I shall conclude by stating that, to any one recommended by you from personal knowledge of his previous character, I shall be willing to render any service, though I fear that to all yearners after quartz gold I shall be able to render scant satisfaction.

That gold may be found in quartz is possible—or rather not impossible—but not in continuous veins, or in sufficient quantities as to establish a paying mine, is my deliberate conviction ; and I therefore look upon the search after a paying quartz mine, or ledge, as likely to be as successful as the search after “ a needle in a bottle of hay,” or an endeavour to discover the philosopher’s stone.

To those who shall aim at the possible and the attainable, I shall render my best offices ; and you may rely upon my giving you the best information as to any discoveries which may be made, or which may be reported as being made, in this country.

Yours truly,

A. T.





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